2005 Disaster Preparedness Manual

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Minnesota Building Official

Disaster Preparedness Manual

Third Edition - Revised 2005

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Suggestions for improvements to this manual are welcomed.
Please contact the Disaster Mitigation Committee at:
Association of Minnesota Builders Association (AMBO)
763-531-5100
or
State of Minnesota
Building Codes & Standards Division
www.buildingcodes.state.mn.us
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Introduction

Minnesota Building Official Disaster Preparedness Manual

Third Edition- Revised 2004

Hazards that potentially cause disasters include earthquakes, extreme heat, fires, floods, winter storms, hazardous materials, hurricanes, landslides, multi-hazard, nuclear, thunderstorms, tornadoes, tsunamis, volcanoes, wildfires, and dam safety issues. Fortunately, Minnesota is not susceptible to all of these hazards. However, many do impact the state on a yearly basis.

Since the last update of this manual in 1999, terrorism has risen to the forefront as a national disaster concern. Consequently, there are now more government entities involved in developing disaster plans. While the focus of this manual will continue to be providing Building Officials with information and tools they can use in the field, references have been added to other entities also involved in disaster planning activities and the resources they have developed, such as:

- **Minnesota Disaster Mitigation Plan Manual**, Department of Administration
http://www.state.mn/uploadedfile/state_mitigation_plan.pdf
Contact information from Chapter 10 has been included in the Appendix of this manual.

- **Minnesota Disaster Management Handbook**, Department of Public Safety, Division of Homeland Security and Emergency Management
http://www.hsem.state.mn.us/uploadedfile/dis_ man_hand.pdf

Use the Minnesota Building Official Disaster Preparedness Manual to:

1. **Help define your role as a Building Official in the development of a community disaster plan.**

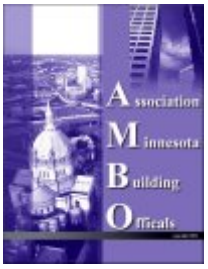
2. **To identify what forms and supplies are needed before a disaster has struck.** Once your role is defined, select and refine the information and tools provided in this manual to prepare you for a disaster. Although the web is proving to be a wonderful resource, when a disaster strikes at midnight, phone lines and/or the web might not be available. Have a plan, prepare your tools, and know what state resources are available and how to access them long before a disaster strikes.

Building Official VOLUNTEER Network

The State of Minnesota, Department of Administration, Building Codes and Standards Division is coordinating the VOLUNTEER program to identify individuals who can be called upon to assist in the event of a disaster. A volunteer registration form has been included in the Appendix of this manual.

If you have any questions regarding anything presented in this manual, or regarding the VOLUNTEER network, please contact Building Codes and Standards Division, 651.296.4639, www.buildingcodes.admin.state.mn.us, or the AMBO Disaster Committee, www.ambo.us.

Admin Minnesota
DEPARTMENT OF ADMINISTRATION



PREFACE

St Peter, Minnesota, 1998

In a typical year, 22 tornados are reported in Minnesota with some of these striking cities and causing structure damage. Damage ranges from minor shingle loss to severe, widespread damage of the type suffered in St. Peter in March of 1998. Less frequent, but equally devastating, are floods which periodically inundate river cities and towns.

When natural disasters such as these strike a community and cause structure damage, the local building department plays a key role. This role typically includes Damage Assessment, the initial phase of inspecting damage inflicted on each structure, and Damage Recovery, the much longer phase during which a community rebuilds. In each phase citizens rely heavily on building department staff for expertise, guidance and assistance.

Often, the local building official will have had no previous experience with these types of emergencies. The local jurisdiction may have an *Emergency Management Plan* with the building official's role spelled out, however, this duty list is often in generalities with few of the specifics necessary for proper guidance. Often the building official must contact associates who have gone through a natural disaster emergency to ask for guidance and advice. Also, when the number of damaged buildings is significant, the building department may require assistance from other jurisdictions in order to quickly inspect and assess each damaged building. When this occurs, many issues confront the building official, which need immediate attention:

- How quickly must buildings be inspected?
- How detailed should initial damage assessment inspections be?
- Which placards are typically used and are any available?
- What role is played, and how thorough will be, the efforts and assistance of other agencies such as the county, the state, public utilities and others?
- How much and for how long will assistance from other jurisdictions typically be offered?
- How many inspectors will be needed?
- What equipment should others bring? What should be purchased?
- How best to communicate with citizens regarding permits, access, inspections, etc.?
- What interaction does the building department have with other agencies?

In emergency situations such as natural disasters it is important that the building department respond immediately, knowledgeably, and effectively for the community. Sound decisions must be made quickly. The impact of these decisions will be significant. Few other departments work as closely with citizens whose lives have been put in turmoil. Additionally, not only must building departments operate effectively performing inspections and issuing permits at these times, it is also necessary to assist the public by effectively communicating with citizens about the damage assessment inspection and

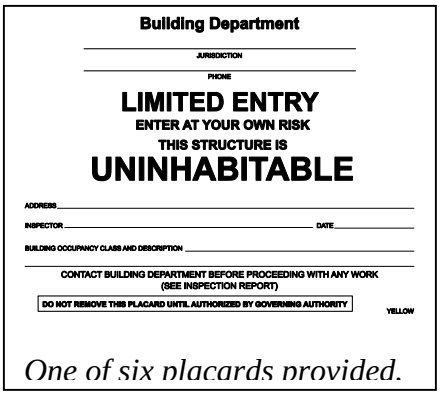
reconstruction process, what actions the building department is initiating and why, and, what citizens must do to repair and reoccupy their homes.

The Minnesota Building Officials Disaster Preparedness Manual is an effort to help educate building officials, inspectors and permit technicians to be better prepared for natural disaster emergencies and to be able to react more effectively if one occurs. This manual has been tailored to conditions and situations specific to Minnesota, for building departments to reference when responding to the effects of a disaster striking their community. This manual also has been designed for use by building officials with minimal experience facing natural disasters which overwhelm the local jurisdiction's capabilities. As a quick reference, it has intentionally been written as a short, nuts and bolts type guide containing practical information. This should not, however, be confused with, or used in place of, a jurisdiction's Emergency Management Plan. This manual should be used in conjunction with such a plan which, of course, takes precedence.

The first 14 chapters contain information, guidance and advice for the building official. The four stages of a disaster emergency are described along with information useful in addressing the numerous dilemmas and decisions the building official will face. Also, an overview is given in an attempt to help put in perspective the building department's role.

Chapter 13 offers a historical view of how building officials have assisted each other in the past, how support typically occurs today, and, additional support efforts proposed.

Chapter 14 identifies educational opportunities offered on the subject of natural disasters.


Building Department

JURISDICTION

PHONE

LIMITED ENTRY

ENTER AT YOUR OWN RISK

THIS STRUCTURE IS

UNINHABITABLE

ADDRESS

INSPECTOR DATE

BUILDING OCCUPANCY CLASS AND DESCRIPTION

CONTACT BUILDING DEPARTMENT BEFORE PROCEEDING WITH ANY WORK (SEE INSPECTION REPORT)

DO NOT REMOVE THIS PLACARD UNTIL AUTHORIZED BY GOVERNING AUTHORITY

YELLOW

One of six placards provided.

Appendix

In the Appendix are forms, placards, and guidance policies and procedures a local jurisdiction may find useful.

With the information, support and education offered by this manual, it is hoped that Minnesota building departments will more effectively perform their role assisting their community in a time of critical need. It is anticipated that eventually a standardized response format will be designed and taught, so volunteer staff will quickly merge with a local jurisdiction to form an effective team to assist the public. Also, it is intended that this booklet be continually updated and improved. Any suggestions for improvement are welcome and should be directed to the contacts listed on the title page or appendix.

CHAPTER 1

OVERVIEW OF A NATURAL DISASTER EXPERIENCE

This chapter is intended to give the reader a brief theoretical overview of a building department's response to a natural disaster event so that the role and responsibility of the building official can be put in perspective. Subsequent chapters go into more detail.

PHASES

There are four separate phases to a natural disaster event:

- Phase I - Preparedness
- Phase II – Damage Assessment
- Phase III - Recovery/Reconstruction
- Phase IV – Mitigation

This chapter will focus on what happens immediately after a disaster event occurs, therefore Phase II (Damage Assessment) and Phase III (Recovery/Reconstruction) are emphasized.

Preparedness:
This phase is basic preparation for a natural disaster. Here is where the efforts of various groups, including the building department, will pay off the most and be most evident. First of all, the building official must know his/her role as described in the local jurisdiction's Emergency Management Plan. This is essential. The building official must know ahead of time what his/her responsibilities are and be prepared to act decisively and effectively. These efforts may include: stocking proper forms and maps, keeping certain phone numbers readily available, knowing the roles played by other departments and agencies, knowing how to quickly obtain additional inspection assistance, knowing specifically how inspectors are to perform damage assessment inspections, how to gear up for the anticipated workload increase, insurance and liability issues, and so on. Keep in mind that the building official's preparation efforts will be evident by way of his/her effectiveness.

Damage Assessment:
In this phase the building department assesses structure damage inflicted by a natural disaster and placards damaged buildings for occupancy worthiness. Often a combination of city, county, state and private agencies also are involved assessing the levels and extent of damage but for other purposes. For example, very often the building department is not used for purposes of quickly compiling a count of damaged structures to determine if a state or federal emergency is to be declared. This is often conducted by the local disaster coordinator's staff through a very quick survey estimating damage to structures as well as other types of infrastructure. The building department's role (consult your jurisdiction's Emergency Management Plan) typically involves performing damage assessment inspections on structures, evaluating occupancy worthiness, and, documenting and reporting this information to the assigned local authority. Often field inspection and office assistance from other jurisdictions is necessary. Also, residents

impacted by a natural disaster, by way of damage to their homes or businesses, must be kept informed as to the status of any restrictions on their building, and, steps necessary to reconstruct and/or reoccupy. One can imagine the overwhelming nature of this situation, and, the benefit preparation and knowledge will bring the building official.

Recovery/Reconstruction:
This phase begins when a community responds to the damage inflicted by a disaster, often beginning immediately following an event and typically before the Damage Assessment Phase ends. Again there will be various types of involvement from city, county, state, national and private agencies. The building department's role typically involves issuing permits, inspecting repairs, and enforcing contractor licensing all the while confronted with a very significant workload increase both in the office and in the field, and, in the face of opposition to code/zoning enforcement in the name of expediency. Here, the building department plays a very significant role in communicating with the affected public and documenting damage which may help in the disbursement of state/federal reimbursement funding (if a declaration is declared). This phase often lasts for up to a year's time and additional paid assistance is almost always necessary.

Mitigation:
This phase is when a community evaluates the natural disaster experience and initiates changes or improvements (physical or procedural) so that less damage or a more effective response will result in future occurrences. Here the building department's role will largely depend on support received from the local jurisdiction's administration, however, the daily routine of reviewing plans and performing inspections will have a significant impact on the ability of structures to withstand damage from future natural disasters.

OTHER AGENCIES

Many different agencies may become involved in a natural disaster experience. The extent to which they become involved will depend on the extent and magnitude of the damage, the location within the state and the capabilities of the governing jurisdiction. A relatively small occurrence in a municipality may involve only local resources to control. If an occurrence is located in non-code enforcement areas, includes multiple jurisdictions, or is of a magnitude which overwhelms the local jurisdiction, other additional agencies may play more significant and ever increasing roles. Each situation is unique.

Some other agencies involved in disasters:

- Local jurisdiction (i.e. city, township, etc.).
- County governments.
- State agencies:
  - Department of Public Safety – Division of Homeland Security and Emergency Management
  - Department of Administration - Building Codes and Standards Division.
  - F.A.S.T. Teams (Fire response).
  - Commerce Department.
  - State Board of Electricity.
  - Pollution Control Agency.
  - Hazardous Material Teams.
  - Department of Natural Resources

- Department of Health

- Private utility companies.
  - Gas.
  - Electric.
  - Communications.
- Private relief agencies.
  - MNVOAD
  - Red Cross.
  - Salvation Army.
  - Church groups.
  - Etc.
- National Guard.
- Federal Emergency Management Agency.

OVERVIEW

At this point as the building official you should ask yourself; if a natural disaster struck the jurisdiction you work for:

- Are you prepared? Is your staff?
- Would you know what to expect?
- Would you know how to react?

Let's assume for a moment that the city you work for has just been struck by a tornado. You get called, or, see a report on television:

- Tornado or straight line winds.
- An unknown number of homes and businesses are damaged and destroyed over a widespread area.

You, as a building official/inspector report to your office. Now, keep in mind destruction comes in all shapes and sizes. In recent years a north St. Paul suburb had approximately 15 homes destroyed and 2000 structures/units damaged. The building staff involved one inspector and one office staff. In St. Peter in 1998 165 homes were destroyed, 120 garages destroyed and 1300 structures were damaged (70% of the city's buildings were affected). In either case, an overwhelming workload that simply can't be accomplished by 2, 3, 4 or so staff members.

So how do you, as building official, respond? Just what are you responsible for? Fortunately as building official, you are not first response, as are police, fire and public works. Immediately they are putting out fires, getting people out of buildings, opening roads and turning off utilities. The building official has time (not much), which is an opportunity to organize. It should be used wisely.

First of all, each jurisdiction should have an Emergency Management Plan on file. This plan takes precedence. It typically will spell out the role of the building official (as well as other jurisdiction employees). You should read it in advance and let all staff know of it and where to find it. Typically, the building official's responsibilities will be:

- Inspect and placard all damaged buildings (obtaining assistance if necessary).
- Keep accurate records and maps of all damage.

- Report to supervisor (often different from one's normal supervisor).

These plans are long on generalities and short on specifics. In reality there is much, much, more to the building department's involvement. Your staff will be face to face with distraught residents for a long time. Staff will interact directly with citizens as much as any other body of your jurisdiction.

So, you read your responsibilities and report to your supervisor. You will likely be asked:

- What are your goals and objectives? What is your game plan for accomplishing them?
- How will you inspect all buildings and within what time frame? What is a standard timeframe?
- Will you be requesting outside assistance? How many? From where? Are they paid? How soon will they arrive? Do you have supplies for them?
- How are insurance and liability issues handled?

Would you be prepared to answer questions such as these? You are the building department expert. You will be expected to have answers, and should have answers. You, as building official, should have a framework understanding of a typical response, access to necessary informational resources, and minimal supplies and forms on hand to begin immediately. Your response to your supervisor should include:

- This is how a typical response progresses…
- These are some of the issues and situations that will typically arise…
- These are some typical decisions the building department and city management will likely have to make in the next few hours and days…
- And finally, this is how the building department will accomplish its objectives…

At a minimum you (the building official) should be knowledgeable in the theory of response so that you can apply it to your very unique situation.

Based on interviews with building officials who have experienced natural disasters, events and a response may progress as follows:

– <u>Damage Assessment Phase:</u>
  - Scope out the damaged areas
    – Ask police, fire, and public works which areas have been damaged.
    – Do a 'windshield survey'. No inspections but just to get the overall scope of damage such as approximately how many structures must be inspected (typically you will underestimate).
  - Plan a response (for both the damage assessment and recovery phases).
    – Set goals and objectives, for example:
      Inspection goals:
        - Inspect all damaged structures as soon as possible..
        - Complete a damage assessment report on each damaged structure.
        - Post a placard on each damaged structure.
        - Create a documentation file for each damaged structure.

      Organizational goals:
        - Arrange assistance to inspect each building within 3 days (will vary) including contacting the State of Minnesota Building Codes

and Standards Division, which is authorized to provide assistance to local jurisdictions when needed.

- Organize office. Note – the building official often stays in the office to organize operations and make decisions. Volunteers sometimes staff the office and office hours are usually extended.
  - Obtain an assistant to organize the field assistance (inspectors).
  - Obtain assistance for phones, plan review, permit issuance, and inspection recording.

Decisions may be needed regarding a number of issues:

- Will inspectors, or someone else, assign dollar valuation to damage assessment reports?
- Right-of-entry parameters for inspectors.
- Who will have authority to order dangerous buildings demolished?
- What information will inspectors pass to residents at damage assessment inspections, or, will inspectors be provided with an informational handout(s)?
- Will permit fees remain or will they be waived?
- For what work will permits be required, and, for what work will plan reviews be required and how long will they take?
- How best to inform citizens of how to obtain permits for repairs, and about contractor licensing requirements.
- Will assistance inspectors have authority to stop work where no permit has been pulled or unlicensed contractors are found working?
- At what point will a structural review by an engineer be required?
- Will permits be issued in the field by inspectors?
- Other.

- Prepare office and field staff:
  - Hold daily meetings and orientations.
  - Obtain necessary forms and obtain/create maps to record damage.
  - Set up a file for each property.
  - Identify documentation requirements and procedures.
- Implement the response.

Volunteer inspector assistance often arrives on the first day following an event. Damage assessment inspections also typically begin as soon as possible. Orientations are a daily occurrence as each day brings new and different inspection volunteers. As documentation occurs and maps of damaged areas are created, requests for various types of documentation become more numerous (requests will come from residents, other city departments, state agencies and possibly F.E.M.A.). Accurate documentation is critical!

An organized response means you identify goals, objectives, policies and procedures so that all staff will understand their part of the puzzle and the public is given accurate and consistent information.

Inspections of damage and placarding <u>will be completed in a few days</u>, however, reinspections and reclassification of damaged structures will occur for weeks for a variety of reasons. Up to 25% of all damage classifications typically will change and require redocumentation and reissuance of reports and maps.

– Recovery/Reconstruction Phase:

The Damage Assessment Phase continues on for however long it takes, but it must be understood that the Recovery/Reconstruction Phase begins almost immediately after an event occurs and must be dealt with in tandem with the Damage Assessment Phase. Issues to be dealt with include:

- A significant increase in office work as phone calls increase, permit issuance increases, additional plan reviews are required, additional documentation is necessary as well as requests for report summaries and updated maps.
- More issued permits means more inspections to perform, however, most volunteer inspection and office assistance dries up and begins to leave after one week. Early on, the building official must decide if additional full-time help will be necessary for the recovery stage and quickly pursue acquiring approvals for it.
- Unpermitted repairs will be discovered and as staff issues stop work orders, frustrated and angry homeowners must be dealt with.
- Unlicensed contractors will be discovered and must be dealt with.
- Demolition of buildings will be ordered or requested and must be coordinated with Pollution Control Agency for removal of hazardous materials.
- The reconnection of utilities must be coordinated so all parties are aware of reconnection procedures and restrictions.
- Disputes will arise between homeowners and insurance companies which will involve the building official's time.
- Again, documentation is critical and time consuming as any disaster-caused damage must be identified, as such, for possible future reimbursement funding.
- Volunteer inspection staff documentation continues to be important, again for possible reimbursement funding in the future.

The Damage Assessment and Recovery/Reconstruction Phase often run in tandem and while damage assessment work tapers off relatively quickly the Recovery/Reconstruction Phase continues on, often for up to a year or more. What you should expect is the unexpected, and you can't fully prepare for that. What you can do is to initiate minimal precautions, preparations and training to better prepare the building department to respond to an event that will have a significant and devastating effect on many of the residents in the community. Residents will be looking to building department staff for professional, effective guidance (on building related issues) throughout this occurrence and its aftermath.

CHAPTER 2

PHASE I – PREPAREDNESS CHECKLISTS

The effectiveness of any disaster response effort will be enhanced by preparation. The following are recommendations designed to allow for an immediate response to a disaster event which overwhelms a local jurisdiction's capabilities and requires outside inspection assistance.

ORGANIZATIONAL:

To be on hand and available.

_____ A copy of the community's Emergency Management Plan.
_____ An organizational chart (typically it is different under emergency conditions).
_____ Identity of who has authority to request outside inspection assistance.
_____ A copy of Minnesota Building Officials Disaster Mitigation Manual.
_____ A list of staff's home phone numbers.
_____ Phone number for State Building Codes & Standards Office and regional staff.
_____ Copies of any mutual aid agreements.

FORMS

On hand to be copied. Examples contained in the appendix.

_____ Damage Assessment Inspection Form.
_____ Placards

- **Unaffected Habitable** No Damage Observed – blue
- **Habitable** Repairs Required – green
- **Uninhabitable** Limited Entry Enter at Your Own Risk – yellow
- **Unsafe Structure Keep Out** – orange
- **Dangerous Keep Out Uninhabitable** – red
- **Sorry We Missed You** – white

_____ Deputizing Form- for assisting staff.
_____ Jurisdiction maps - copy size.
_____ Map of the jurisdiction which includes individual addresses (invaluable).
_____ See appendix for additional forms.

EQUIPMENT TO BE AVAILABLE TO EACH INSPECTOR/TEAM:

To be purchased once an event occurs.

_____ Large flashlights.
_____ Extra batteries.
_____ Rolls of duct tape.
_____ Clip-on name tags.
_____ Black markers, pens.
_____ Clipboards/notebooks.
_____ Polaroid camera and film and/or digital camera.
_____ First aid kit (small).

Request assisting staff to bring.

_____ Hard sole boots.
_____ Identification as building inspector.
_____ Code books

_____ Cell phone (if available).
_____ Rain gear.
_____ Hard hat.
_____ Gloves.
_____ Tape measure.
_____ Bright vest – (e.g.) as used by road maintenance crews.
_____ Insect repellant, if applicable.

MISCELLANEOUS-RECOMMENDATIONS:
_____ Attend educational opportunities about disaster mitigation.
_____ Provide staff training by assisting other jurisdictions struck by disasters (both field and office staff).
_____ In city ordinance require a demolished building to have its foundation removed vs. buried. This will allow reimbursement funding to pay for foundation removal.
_____ Educate city management on the potential problems associated with waiving permit fees in a disaster event.

Introduction to the Minnesota Incident Management System

The following information is excerpted with permission from training materials produced by the State of Minnesota, Homeland Security and Emergency Management Agency, October 2004.

For more information or training go to the Homeland Security and Emergency Management Website: www.hsem.state.mn.us

Or contact Suzanne Donnell at sdonnell@mail1.dps.state.mn.us

The Minnesota Incident Management System (MIMS) is designed to be in use from the time an incident first occurs until the requirement for management no longer exists. "Incident Commander" is a title which can apply equally to any responding organization or to any one of its members representing any level of management, depending upon the situation. The structure of the MIMS can be established and expanded depending upon the changing conditions of the incident. It is staffed and operated by qualified personnel from any responding agency and may involve personnel from a variety of agencies.

As such, the system can be utilized for any type or size of incident, ranging from a minor situation involving a single unit, to a major incident involving several agencies. The MIMS allows agencies to communicate using common terminology, to share goals and tactical objectives, and to understand the roles and responsibilities of others. It also allows for the combining and management of resources during an incident.

MIMS is designed to be used in response to incidents caused by fires, floods, earthquakes, hurricanes, tornadoes, riots, hazardous materials, or other natural or human-caused incidents. It can also be used for other non-emergency events such as parades and community celebrations.

Many incidents require response from a number of different agencies. For example, a multi-car traffic accident would require the response of emergency medical services, fire, law enforcement, and even public works if roads need to be closed for an extended period of time.

At the scene of a large water main break – water, sewer, gas, electric, and telephone personnel might assist with the response. Law enforcement units might be on the scene for traffic assistance, and the fire department might have been notified of the water or gas problem.

Another example would be response to damage in a residential area. If high winds leave trees and branches in the roadways, down electric wires, and damage to roofs of homes, many agencies – fire, EMS, law enforcement, public works, and utility crews – will respond. But, in order for the efforts of these organizations to be effective, a system needs to be in place to organize on-scene activities.

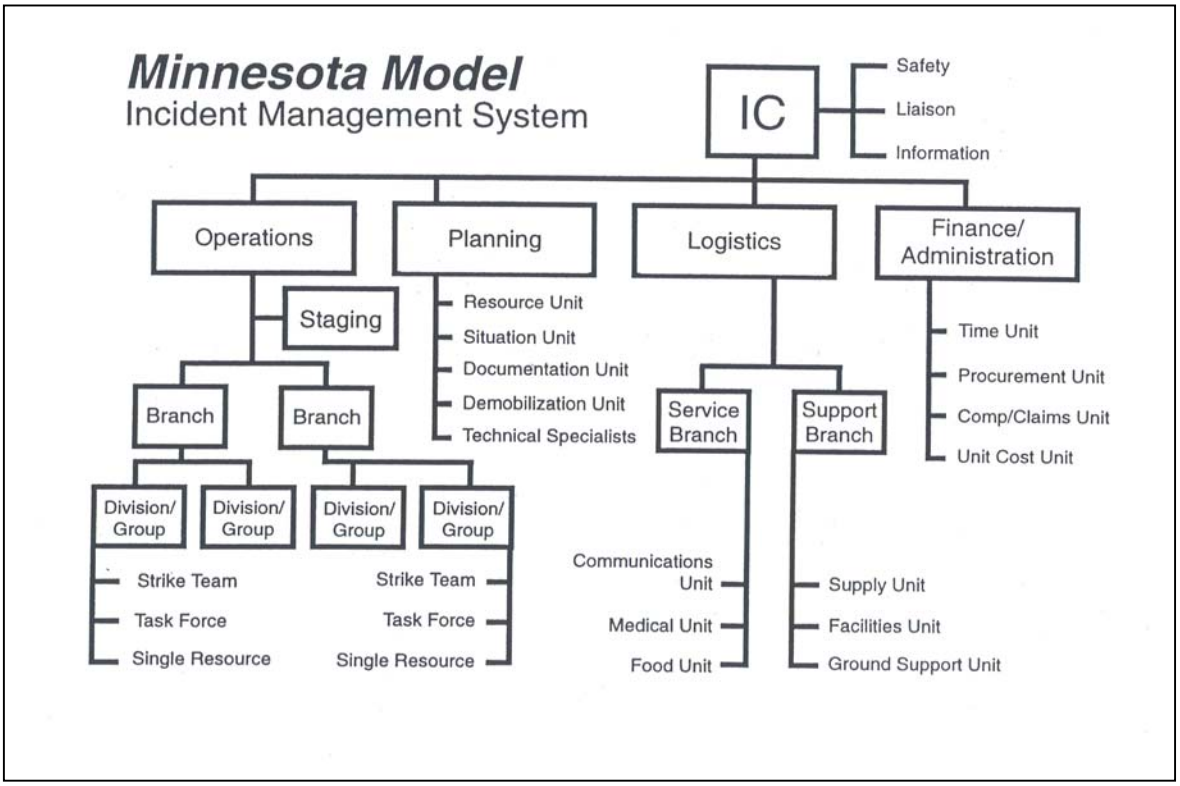
Minor incidents require response of several agencies. Larger incidents – flood, tornados, hurricanes, earthquakes – would require the response of many additional agencies.

No single agency or department can handle an emergency situation of any scale alone. Everyone must work together in the management of the emergency. A formalized system must be in place for a community to handle the situation.

A formalized system lends consistency to the way team members and agencies function in an incident, and fosters efficiency by eliminating the need to "re-invent the wheel" for each new incident.

Incident Management Systems use an integrated approach to prepare for emergencies resulting from normal day to day incidents (such a house fires and minor utility outages), major incidents (such as haz mat spills or small stream flooding), or disasters and major emergencies (such as tornadoes, hurricanes, and earthquakes).

Using this system, communities define and build capabilities in generic elements such as warning communities, evacuation, and sheltering.



Minnesota Incident Management System Goals

Incident Management Systems seek to foster the federal, state and local partnership with maximum flexibility available to state and local partners for achieving goals, and build on the foundation of existing incident management plans, systems, and capabilities to broaden their applicability to a wider range of incidents.

An integrated approach to incident planning and operations is a requirement for any jurisdiction seeking to implement an effective incident services program.

An integrated approach to incidents management is based on solid, general management principles in the network. These may include individuals with obvious roles, as well as those whose roles seem peripheral. For example, important members of an incident management team may include the editor of the local newspaper or the supervisor of a local construction crew.

General Staff Model
Introduction: Transition from previous modules:
Review

A. Responsibilities of Command Function
   1. Assess incident priorities
   2. Determine strategic goals
   3. Determine tactical objectives
   4. Develop incident action plan
   5. Develop appropriate organizational structure
   6. Manage incident resources
   7. Coordinate overall incident activities
   8. Ensure all responder safety
   9. Coordinate activities of outside agencies
   10. Authorize release of information to the media.

Operations

A. Definitions: Responsible for management of all tactical activities at the incident
   1. Implement when necessary, not to "over-manage" the incident
   2. IC could end up with a span of control of use

B. Responsibilities of the Operations Chief
   1. Direct and coordinate all tactical operations
   2. Assist the IC in developing strategic goals and tactical objectives for the incident
   3. Develop operational plans
   4. Request or release resources through the IC
   5. Consult with the IC about the overall incident action plan
   6. Keep the IC informed of situation and resource status within operations
   7. Supervise the Staging Area Manager

C. When to Staff Operations
   1. Most common reason is span of control problems for the IC
   2. Incident covering large geographical area
   3. Complex incident in which the IC needs assistance determining strategic goals and tactical objectives

Planning

A. Definitions: Responsible for the collection, evaluation, dissemination, and use of information about the development of the incident and the status of resources.

1. Situation status:
    a. Past
    b. Current
    c. Predicted
2. Resource status:
    a. Current
    b. Predicted need
3. Use of this information
    a. Knowing what has happened creates basis for understanding problem(s) leading to current situation.
    b. Understanding current situation creates basis for accurate prediction
    c. Accurate prediction creates basis for modifying action plan

B. Planning Responsibilities

1. Information Management:
    a. Collection
    b. Evaluation
    c. Dissemination
    d. Use
2. Planning for Operational Periods:
    a. The planning chief is responsible for developing plans for the incident operational periods.
    b. Rescue phase (first 90 minutes) vs. Recovery phase
    c. Operational periods are generally 4 to 12 hour periods or day vs. night operations.
    d. The incident needs to be broken down into manageable time frames – large incidents can't be solved all at once.

3. Assists the IC in:
    a. Developing an effective action plan
    b. Modifying the incident action plan -
    - Where
    - When
    c. Anticipation changing resource needs
    d. Preparing alternate strategies
    e. Great value of Planning is ensuring a proactive IC

Logistics

A. Definitions: Responsible for providing facilities, services, and materials for the incident.

B. Logistics Chief Responsibilities
1. Acts as "supply sergeant" for incident
2. Manages services and support resources
3. Responsible for tracking resources

The Logistics Chief is responsible for all Logistics functions needed for an incident. This individual should establish functional units when needed to maintain an acceptable workload and span of control. Subordinate Logistics functions may be combined when workload permits.

The Logistics Chief should be assigned before implementation of subordinate units to prevent an excessive span of control or information overload for the IC.

Branches under Logistics may need to be established to maintain span of control with six functional units established.

C. Service Branch

1. Responsible for service activities at incident
2. Managed by a Branch Director
3. Communications Unit:
    a. Develops communications plan
    b. Distributes communications equipment
    c. Supervises communications network
    d. Maintain and repairs equipment
4. Food Unit:
    a. Base
    - Location where primary support activities are performed
    - Reporting and marshaling area for resources not considered available for immediate assignment
    - Not commonly used at structure fire incidents
    - May be used during wildland or high-rise incident
    b. Feeding areas

Finance/Administration

A. Definition: Responsible for all costs and financial considerations of the incident.

B. Finance/Administration Chief responsibilities

1. Future payments
2. Future budgeting
3. Payment of personnel costs
4. Cost recovery

C. Staffing of Financial/Administrative Section

1. Usually only in large-scale or complex incidents
2. Most departments lack organizational structure to manage the financial demands of large-scale or complex incidents
3. Likely candidate for Financial/Administration Chief:
    a. City finance director
    b. County finance director
4. Finance Section may be located in a remote place, away from the incident site.

CHAPTER 3

PHASE II - DAMAGE ASSESSMENT

This phase of a disaster event is when a local jurisdiction assesses the damage caused by a natural disaster. Often a combination of state, county, city and private agencies are involved assessing overall area damage. The building department's role (consult your jurisdiction's Emergency Management Plan) typically will be to assess the damage inflicted on structures, evaluate occupancy worthiness, and, document and report this information to the assigned authority. Also, the building official should understand that property owners impacted by way of damage to their homes and businesses need to be kept informed as to the status of restrictions on their buildings and any steps necessary to reoccupy and/or rebuild.

Determining the scope of damage:

- Damage assessment for building departments usually begins with a preliminary report from the police or fire department as to the area of damage. A 'windshield survey' is often then conducted by the building department to identify those areas requiring structure inspections and approximately how many structures must be visited. It is recommended to inspect homes beyond the perimeter of obvious damage, as often damage is not readily apparent.
- Very often the local building department is not used for purposes of quickly compiling a count of damaged structures to determine if a state or federal emergency is to be declared. This is often conducted by the local disaster coordinator's staff – a very quick survey estimating damage to structures as well as other types of infrastructure.

Setting goals and objectives:

In consultation with the building official's supervisor, specific goals and objectives should be immediately decided.

- Sample goals:
  - Complete a damage assessment report and placard each damaged structure as soon as possible.
  - Document inspection reports and placards used for each damaged structure and report this information to supervisor. Also, map all damaged structures by placard status.
  - Maintain communications with emergency coordinator (through supervisor) to verify any additional responsibilities due to state or federal declarations. (Often, building officials are not kept informed of changing conditions, added responsibilities and/or deadlines).
  - Open communication channels with the public regarding placarding, inspections and permits. (Many complaints, following an event, revolve around the affected property owner not being kept informed as to steps necessary to rebuild and/or reoccupy their structure, and, thereby causing delays).
- Sample objectives:
  - Determine if outside assistance will be required in the field or office and acquire if necessary, such as a flood disaster.

- Set up files to document all damaged structures, additional personnel, hours worked, inspections performed, permits issued and expenses incurred (see Appendix for sample forms).
- Contact State of Minnesota Building Codes and Standards Division to see what assistance may be available.
- Create a color coded map of damaged properties based on 'damage assessment report' criteria (this map will change frequently and, be in high demand from other departments and agencies). See sample in Appendix.
- Decide policy on a number of issues and write them out so that information given out by staff is accurate and consistent:
    - Extended office hours are typical.
    - Will permits be charged for or will they be free (cities often eliminate charges for permits during an emergency, however, they are usually covered by insurance and the building department will likely require additional paid staff for quite some time).
    - How often to meet/report to supervisor.
    - For what work will a permit be required (see sample handout in Appendix – homeowners need to be informed).
    - When will a plan review be required and how long will it take to obtain.
    - How will contractor licensing be enforced (in the past departments have enforced it, but also have utilized rapid contractor licensing in conjunction with Commerce Department personnel). Often jurisdictions will request a Commerce Department representative to assist.
    - Who will be assigning dollar valuation to structure damage (it is extremely difficult for volunteer inspectors to estimate damages). One approach has been for Assessing Department to establish an average value per home in the area and then apply a standard multiplier to the damage identified on the damage assessment report:

      Destroyed – 100% of average value
      Major damage – 50% of average value
      Minor damage – 25% of average value.

      This is typically not the building official's decision but it should be verified that it is occurring. Other agencies may be performing similar tasks but using different criteria for different purposes (such as the Red Cross).
    - What authority will you restrict from field inspectors or office staff (for example: stopping work on a job should be left to the local building official, demolition permits or permits issued on existing non-conforming uses should be reviewed by the local building official before issuance).
    - Utility reconnection process (utilities operate differently everywhere – it must be coordinated with utility companies to determine how reconnections will occur).

- What additional information, if any, will the field inspector give to the homeowner or post when placarding a structure? Communication with the public is critical. In addition to the placard, it is recommended that the following also be given to the homeowner or posted, possibly in the form of a policy page (see sample in Appendix):
  - A statement as to the purpose of damage assessment inspections and placarding.
  - A copy of the damage assessment report.
  - When a permit may or may not be required.
  - How and where to obtain a permit.
  - Building department office hours.
  - Phone numbers of city offices, utility companies, Red Cross, tree removal service and debris haulers.
  - When a licensed contractor is required and the protections afforded the property owner.
  - Advice on finding reputable contractors and avoiding scams.
  - Any other city-produced handouts as appropriate.
  - At the damage assessment inspection the inspector could identify if any permits are required based on the damage assessment report.

Obtaining inspection/office assistance:

- See Chapter 6 which describes how to obtain volunteer assistance.
- Also be aware that State of Minnesota Building Codes and Standards Division regional representatives can be a valuable and immediate resource particularly in outstate areas. It is recommended they be contacted immediately.
- The building official, prior to inspections commencing, should give an orientation to all staff. Volunteer inspectors should be given an overview of the city and briefed on any pertinent policies/priorities. The documentation of damage, public information handouts and record-keeping procedures should be discussed. Priority inspection sites should be identified. Also, it should be specified what would constitute an 'uninhabitable' home. This is a significant action that should be carefully thought through and then uniformly enforced.
- **Minnesota Structural Engineering Emergency Response Program (MnSEER)**
  MnSEER is a **volunteer** effort to supply **structural engineering** expertise in a time of emergency. Natural and manmade disasters can cause widespread damage to buildings, bridges and other structures resulting in a need for immediate evaluation of affected structures to protect the public safety. The scope of structural engineering services necessary in these post-event evaluations is often beyond the staffing capacities of local building officials, inspectors, firefighters and other volunteers who may be first to respond to the disaster scene. For additional information, contact one of the following individuals on the MnSEER Committee:

  Dan Kelsey, Structural Engineer, State of Minnesota, Building Codes and Standards Division, 651-205-4210, dan.kelsey@state.mn.us
  Tom Lorentz, P.E., 612/330-0250, telorentz@aecengineering.com

John Paul Gille, P.E., 651/407-6056, jpgille@paulsonclark.com
Jerry Hajjar, P.E., 612/626-8225, hajjar@struc.ce.umn.edu
Mike Lederle, S.E., 952/656-4577, mike.lederle@opus-ae.com
Eriks Ludins, P.E., 651/266-6184, eriks.ludins@stpaul.gov
Andy Rauch, P.E., 763/843-0420, arauch@bkbm.com

Office organization:

- Phone calls, counter calls, permits and plan reviews will multiply. Assistance typically is needed.
- A damage area map should be readied to identify the damage report/placard classification on individual properties (copies of this map will be in great demand by other departments and agencies, see Appendix for sample). Note that that the Department of Public Safety – D.H.S.E.M. recommends specific colors.
- Maps of the area of damage which include individual property addresses should be produced for field inspectors. Street signs and addresses on homes will be missing.
- Additional copies of various forms and applications must be readied. (See samples in Appendix).
  - Damage Assessment Inspection Reports.
  - Placards – color coded.
  - Permit applications.
  - Timecards (for volunteers).
  - Policies and handouts.
- If the jurisdiction does not have paper 'property files' organized by address, a file for each property should be created.
- Accurate documentation of damage assessment reports, individuals, hours worked, expenses, etc. is critical following disaster events in order for potential reimbursement funding (to both the jurisdiction and property owners) from state and federal agencies (if a declaration is made).

Field inspections:

The primary concern of Damage Assessment is to placard those structures that could pose life-threatening consequences on the inhabitants. The secondary focus is to perform damage assessment inspections on each and to document the findings.

Combination Damage/Placard Categories (copies in Appendix):

- **Unaffected Habitable** No Damage Observed – blue
- **Habitable** Repairs Required – green
- **Uninhabitable** Limited Entry Enter at Your Own Risk – yellow
- **Unsafe Structure Keep Out** – orange
- **Dangerous Keep Out Uninhabitable** – red
- **Sorry We Missed You** – white

Placarding a structure means to post a placard which identifies its occupancy worthiness as to if it is currently habitable or not. Performing a damage assessment inspection identifies its level of damage. They are usually both performed during one inspection. It should be noted that while often the damage level and placard categories do correlate, sometimes they do not (for example a shopping mall undamaged but without power for smoke evacuation would have no physical damage but be placarded as uninhabitable). In the Appendix are information sheets which advise how to categorize both the placarding and damage reporting.

It is recommended that two inspectors perform placarding/damage assessments together. If possible, assisting inspectors should be teamed with inspectors of the affected jurisdiction. The combined experience and familiarity with the area can help the assessment process. If occupants are present during an inspection, one inspector can perform the assessment while the other answers questions. An additional benefit to working in teams is safety - inspectors can look out for each other while working in damaged buildings. For a list of equipment inspectors should carry into the field, see Chapter 2.

The following considerations should be taken into account when inspecting a damaged structure:

- Right of entry – usually owners will be home and be grateful for the inspection. If no one is present inspectors typically leave a note requesting the owner arrange/schedule an inspection. However, if doors and windows are blown out and the structure is 'open' to the public, a full inspection and placarding is typically performed (verify right of entry procedures with city attorney).
- Is it safe to enter? If in danger of collapse it should be inspected from the outside only.
- Are power wires down or is gas escaping? Typically no, because utilities have already been shut off.
- Is the structure displaced from its foundation, twisted, leaning or bowed? Usually an indication of major damage (costing more to repair than replace).
- Make exterior observations first, and then proceed to the interior (using the damage assessment report form). It is suggested to use a specific pattern for inspections, i.e. begin in the basement and then work upwards using a clockwise movement while going through all rooms on all levels. If you use the same pattern on all structures, you are less likely to miss something. Different inspectors will provide strikingly different levels of detail in their documentation. They should be instructed as to the level of detail required (a sample completed form is in the Appendix).
- Of particular importance are utility re-hookups. Procedures will differ depending on location but should be coordinated with the utility companies and the electrical inspector. Procedures should be written down and given to all staff and affected property owners.
- Placards should be posted (with tape) to be visible from the street, near entrances.
- Consider giving each inspection team a camera (Polaroid, throwaway 35 mm or digital). Taking at least one picture of the structure (and one of the placard to identify the structure) documents the building condition at the time of the event. This additional documentation can be invaluable later on (after repairs have been made to the structure) for purposes of reimbursement funding. State and federal agencies will require documentation of a structure's damaged condition prior to releasing funds. Damage assessment reports can be vague for these purposes.
- Office debriefings should occur daily to determine progress, identify and resolve problems and coordinate future inspections.
- Daily inspection results should be entered onto the damage assessment map and into appropriate files. Timecards should also be collected daily from volunteer staff and filed. Expenses should be recorded daily.

Communicating with the public:

All staff should be aware that communicating information to affected property owners, whether over the counter or at the inspection, is a critical function of the department. Owners will want the damage to their properties repaired immediately. They will want to know what restrictions the placard places on their structure, what the damage report identifies, and, what steps they must take to begin repairs and/or reoccupy. It is here that conveying information to affected property owners, through handouts, can significantly reduce confusion, frustration and confrontation, and, speed the recovery process. As stated previously, written policies and public handouts should be created immediately, given to inspectors and distributed during damage assessment inspections. (See Chapter 7 and samples in Appendix).

F.E.M.A./H.S.E.M. vs. Building Damage Assessment Inspections/Reports:

The building official should be aware that the Minnesota Department of Public Safety – Homeland Security and Emergency Management puts out a lengthy damage and impact assessment form as a tool to be used by a local emergency manager to determine the extent of damages so that a decision can be made on whether or not to request federal and state financial assistance. This form reports damage on many more listings than just buildings (bridges and roads for example). It should be noted that the inspection criteria and classifications listed on these forms are similar to forms shown elsewhere in this manual. Red Cross criteria, however, is slightly different with fewer levels of damage listed.

Conclusion:

The Damage Assessment Phase is understandably intense. It is better to be prepared and act, rather than simply react to events. Also, it must be understood that the Recovery Phase begins almost immediately – during the Damage Assessment Phase! Both phases must be dealt with simultaneously.

CHAPTER 4

PHASE III - RECOVERY

The Recovery Phase, as it relates to the building department, is when a community repairs and reoccupies damaged structures following a disaster event. This phase will begin almost immediately (before the damage assessment phase is completed) and must be dealt with in tandem with Phase II - Damage Assessment. Recovery, however, will often last for up to a year or more as the community rebuilds. The building department will likely be faced with a significant work load increase during this period, and, if state and/or federal disaster declarations have occurred, additional work in the form of reinspections and providing documentation will be necessary. Also, as volunteer assistance leaves, paid assistance often becomes necessary. Therefore, although it is very difficult, decisions affecting the Recovery phase should be made relatively quickly and in conjunction with the Damage Assessment phase as both phases overlap.

Setting goals and objectives:
In order to provide guidance to both staff and the public it is useful to establish goals and objectives (with approval from your supervisor).

Sample goals may include:

- Issuing permits, performing inspections and documenting work without delays to the public. This can be more difficult than it first appears due to the significant work load increase.
- Assist the affected public through effective communications. The rebuilding process will be at best confusing to the public (and contractors). Effective communications can greatly speed the recovery process.

Sample objectives may include:

- Obtain adequate staffing. Volunteer and mutual aid inspectors are often only available for about a week (longer for major events such as St. Peter or floods such as East Grand Forks). By the third day following an event the building official should be considering the necessity of (and obtaining approval for) additional paid office and field staff. This additional staffing is often necessary for up to a year (therefore, careful consideration should be given before following some past practices of eliminating permit fees for damage repair work).
- Provide written policies to guide staff. Office and field staff will be inundated with questions and work load. The department should be giving out and operating under consistent and accurate information. Some polices and procedures will have been previously decided in the Damage Assessment phase (e.g.) what work will require a work permit, when will a plan review be required, how will contractor licensing be enforced, etc.
  Additional policies may include:
  - Will certain permits be issued in the field by inspectors such as reroofing or residing?
  - How will zoning and engineering issues such as non-conforming uses or utility repairs be verified and coordinated into the permit process?

- Under what conditions must a structure be demolished and by whose authority?
- Under what conditions and time frame must damaged buildings be boarded up?
- Will office hours be extended during the recovery phase (usually a longer period of time)?
- How will the reconnection of utilities be coordinated and communicated to building inspectors, property owners, contractors, etc?
- Many other decisions regarding policy issues will be necessary as each event and jurisdiction is unique. It is critical to document decisions and distribute information to minimize confusion and frustration.

- Communicating with the public. People's emotions will be charged and each perceived delay, confusion, and frustration will result if a concern is not adequately addressed. In the information given out during the Damage Assessment phase, include:
  - What restrictions the placard places on their structures.
  - The purpose of the damage assessment report and what it says about their structure.
  - What steps must be taken to begin repairs on their structures and reoccupy (see sample in appendix for the above).

  The following additional information may prove useful to property owners of damaged property:
  - Precautions to take in a damaged home (see sample in appendix).
  - An inspection checklist for the property owner's follow-up (see sample in appendix).
  - Recommendations such as contacting insurance agents before signing contracts.
  - Lists of local licensed contractors phone numbers made available.
  - The utility reconnection process for gas/water/electrical explained.
  - Procedures listed for demolition of structures if insurance companies declare structures destroyed (costing more to repair than replace).
  - How to identify reputable contractors for permanent repairs (see appendix).
  - How to avoid scam artists.

  Communicating information to affected property owners and contractors is a critical function for the recovery process to be successful (also see Chapter 7).
- Communicating with supervisor and the disaster coordinator. Following disaster events one of the biggest complaints from building officials is that during the initial stages of the event they were not kept informed of decisions directly affecting their role and responsibilities. Decisions made by local officials, required documentation due to state or federal declarations or coordination decisions by the disaster coordinator often are not relayed to the building official who sometimes has primary responsibility for implementation. The building official must impress on his/her supervisor that he/she be informed of decisions affecting the recovery process.

Some additional issues a building official may face during this phase include:

- If building permits are issued for emergency repairs to allow habitability, it should be identified that separate permits for permanent repairs are required.

This is to avoid homes being occupied but not repaired. A time frame should be stipulated.

- Pressure will often be placed on the building official to forgo the requirements of some permits and many types of plan reviews in order to expedite the repair process and get residents back into their homes. This has merit, however, a balance should be reached so that building code, engineering department, and zoning ordinance issues can be adequately addressed. If plan reviews are not required, some property owners may obtain permits to repair or expand a non-conforming structure or use that should be denied. No building official wants to be forced to stop a job that was previously issued a permit.
- Residents will often want to incorporate expansions, additions and further remodeling as long as they are hiring contractors to perform repairs. Again, if plan reviews are not required, this complicates the field inspection process.
- Contractor licensing laws can be difficult to enforce by an overworked staff in the rush to rebuild. Unfortunately, this is precisely the time a few contractors will try to take advantage of desperate property owners.
- Will repair work be allowed to begin immediately with a permit obtained later? Issuing stop work orders in these situations will not be well received.
- The Pollution Control Agency may request the jurisdiction's inspectors verify hazardous materials have been removed from structures prior to demolition. An affected jurisdiction may not have adequate staffing to perform this function.
- With a federal declaration F.E.M.A. often reimburses debris removal – except for foundation removals.

Conclusion

It must be understood that the Recovery phase begins immediately and must be dealt with in tandem with the Damage Assessment phase. The most important aspect of the recovery phase is communications. Communication with staff, communication with the disaster coordinator, and, communication with the public. This phase will last up to a year, and adequate staffing levels are critical.

CHAPTER 5

PHASE IV - DISASTER MITIGATION

Disaster Mitigation is the fourth phase of a disaster experience; it is when a community evaluates the natural disaster experience and initiates changes or improvements (physical or procedural) so that less damage or a more effective response will result in a future occurrence.

Many of the mitigation efforts a community will undertake will be beyond the scope and involvement of the building official. Improvements of this nature typically include enhancements to the public infrastructure to ensure continued public services during an emergency. However, mitigation efforts by the building department after an occurrence can have a significant impact. Mitigation efforts of this type may include:

- Discussions among inspectors and support staff as to what worked, what did not, and then revising procedures, policies, handouts and forms.

- Discussions with citizens impacted by the disaster occurrence in order to better understand the problems and difficulties they faced (both immediately after the occurrence and in the longer recovery phase) so that the public's interaction with the building department can be improved.

- Discussions with other area building departments to compare and share knowledge, experiences and other mitigation efforts.

- Meetings with other area Building Officials to discuss assistance prior to occurrences.

- Sending staff to educational opportunities on the subject of natural disasters. Also allowing staff to assist other jurisdictions struck by natural disasters is an excellent, low cost, educational tool.

- More vigorous plan review and inspection of those structural aspects of construction that experienced damage during the occurrence (i.e. component failures).

- Developing a disaster response plan for the building staff, tailored to the community, to function in tandem with the community’s Emergency Management Plan.

- Educating citizens on voluntary mitigation opportunities such as wind resistant construction techniques when permits are issued (i.e. attached handouts).

- Programs (including grants) are offered to jurisdictions (not individuals) by F.E.M.A. for the retrofitting of existing structures to better withstand natural disasters (for example, installing tiedowns on existing mobile homes to better resist wind events). For information on these programs, contact the Minnesota Homeland Security and Emergency Management.

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CHAPTER 6

FLOOD TYPE EVENTS

The Disaster Preparedness Manual is designed around a tornado event which is the most common type of disaster in Minnesota. Of equal importance, however, are flood events. Flood events typically are not the immediate devastation that tornadoes are; however, they can be just as devastating to structures and the lives of inhabitants. This chapter discusses the four phases of a flood disaster and, while the bulk and principals of this entire manual still apply, highlights those aspects which are unique to floods. However, the reader should become familiar with all chapters as other information, such as state legislation, applies to floods as well.

Floods, as do tornadoes, come in all shapes and sizes. A flood event can be extensive such as the 1998 statewide spring flooding of numerous rivers which caused millions of dollars in structure damage. Furthermore, the basic principles apply even to a single home which has had its basement flooded. Flood damage to a structure, the assessment of damage incurred and recommended repair methods, are similar regardless of the size of the event.

As in any other disaster event, there are four phases to a flood disaster;

- Preparation
- Damage Assessment
- Reconstruction/Recovery
- Mitigation

Preparation

It is preparations taken before a flood occurs that will provide the most benefit to both the building department and the public. While in a tornado the damage is immediate and any preparation a definite forethought, often (but not always) flood events develop over a longer period, allowing more time to prepare.

First and foremost, preparation includes attending training on the subject of disaster response. Many classes and seminars are available as well as what is truly some of the most effective training – volunteering and assisting another jurisdiction's building department struggling through a flood event. Nothing nails home the issues and obstacles that must be overcome like first hand experience conducting inspections of flooded homes and observing another department struggle with the difficult issues that have no easy, apparent answers. Preparation also includes gathering supplies for the anticipated work.

Assisting inspectors can be asked to bring:

- Tape measure
- Identification
- Gloves
- Flashlight
- Hard hat
- Boots
- Rain gear

Supplies a jurisdiction may be expected to provide each team include:

- Large flashlights
- Ring binder notebook
- Fluorescent vests
- Maps
- Mosquito repellant
- Duct tape
- Local Identification badges
- Informational Handouts

Office preparations may include:

- Creating a crib sheet for inspectors identifying what to inspect and document, and, at what point does a structure become uninhabitable (sewage in basement, leaking fuel oil tanks, sprinkler system not functioning, etc.). This is discussed in more detail later.
- Making copies of the Damage Assessment Inspection form (see Appendix).
- Making copies of the four Placards (see Appendix).
- Making copies of building permit applications.
- Modifying and making copies of handouts describing, for the public, the damage assessment process - also including helpful phone numbers (see Appendix).
- Making copies of handouts relating to flood damage and clean-up (see Appendix).
- Crib sheets so that all staff are aware of policies and procedures, and, are giving out accurate information and consistent answers.
- Possibly adding and training additional office staff for the anticipated work load increase.
- Creating a command structure diagram (with names) so that staff will know who to direct questions to.
- Creating or copying maps of the jurisdiction – with individual property addresses.
- Timecards and sign-up sheets for assisting volunteers (see Appendix).
- Creating a map which will visually record the placard and level of damage each structure has been classified. Copies of this map will be in great demand by the other agencies (see Appendix for sample).
- Creating a spread sheet which will visually convey the progression of individual property structures through the Assessment/Recovery processes (very good for staying informed on the situation as a whole) .

Some miscellaneous preparations may include:

- Reading your jurisdiction's Emergency Management Plan to verify the building department's role and responsibilities.
- Informing your supervisor of the building department's proposed actions, anticipated additional expenses, additional personnel requests, potential problems and confrontations, and, explaining your response in enough detail to keep your supervisor well informed.
- Meeting with the local disaster coordinator to verify the department's role and responsibilities so that there are no unfulfilled expectations by others (first get approval from supervisor).
- Meeting with Dept. of Natural Resources representatives to discuss flood plain issues such as identifying (and potentially limiting the rebuilding of) homes within the flood plain with more than 50% damage. Also, procedures and responsibility for determining the per cent of damage incurred.

- Meeting with Pollution Control Agency representatives to discuss possible inspections, prior to demolitions, to verify the removal of hazardous household debris (fluorescent light bulbs, mercury in thermostats, etc,).
- Locating the property owners of vacant structures so that inspections after the flood can be easily arranged.
- Creating notebooks for each inspection team:
  - Sign-in sheet.
  - Time cards.
  - Map – with individual property addresses.
  - Damage Assessment Inspection forms (and instructions for use).
  - Placard copies in correct their colors (and instructions for use).
  - Any handouts deemed beneficial such as: explaining the damage assessment process, storm damage clean-up, etc. (found in Appendix).
- Informing the public, before a flood occurs, on how best to prepare a structure for anticipated flooding:
  - Keeping a basement pumped dry may lead to its collapse due to hydrostatic pressure.
  - The wave action of driving past flooded mobile homes can significantly weaken foundations. Signs should be posted to minimize this from occurring.
  - Secure fuel oil tanks so that they will not tip over or float. If possible have fuel removed from tanks located in the basements of homes (because fuel oil is lighter than water, even full tanks will float). This will reduce the likelihood of a fuel oil spill within a home which can be very difficult and expensive to repair. If fuel oil does spill inside homes, have the homeowners contact the MPCA Customer Assistance Center at 1-800-646-6247. Underground fuel oil tanks, on the other hand, are less likely to pop out of the ground if they are full.
  - Identifying and marking highwater elevation level on trees or poles around the structure (after floodwaters have subsided) for future reference.

Preparations will directly impact the success of both the Damage Assessment and Recovery Phases for both the building department and the affected the public.

Damage Assessment

Damage assessment in a flood event is when building inspectors physically inspect the exterior and the interior of a flood affected structure, complete a Damage Assessment Report and then Placard the structure for habitability. This information is then documented and mapped by office staff. These inspections should occur as soon as possible after flood waters have subsided (and basements are emptied). As in a tornado event, a windshield survey is first conducted to identify the scope and boundary of those flooded structures requiring inspection. Also of note:

- Assisting inspectors should be organized in teams of 2 (for safety).
- Each team should be given supplies (see Preparation) and assigned a specific territory which is recorded (for safety purposes).
- Assisting inspectors should be given an orientation when they arrive and then be deputized. The orientation should include those issues listed in chapter 6, but to also include:
  - Specifics for how to inspect flood damage (discussed later) and how to complete the damage assessment report (see sample in Appendix).

  - Instructions on how to placard a structure and just what constitutes an uninhabitable structure (see Placarding – Floods in Appendix).
  - An explanation of why the D.N.R. wants specific structures identified on damage report forms (if over 50% damaged and within the 100 year flood plain).
  - Informational handouts to be given out (by inspectors) to the affected public at inspections.
  - Sanitation warnings and guidelines as some inspectors will inevitably come in contact with sewage in basements or other contaminants.
  - Documentation requirements for volunteers (such as; name, jurisdiction, home phone number, days/hours worked, deputizing, etc.).
- Assisting permit technicians should be given the same orientation when they arrive so that they also understand the role of the inspector. Additionally, permit technicians should be instructed on:
  - The local permitting process.
  - Documentation procedures.
  - Creating maps from damage/placard reports.
  - Files storage.
  - Informational handouts to include with issued permits.
  - Phone numbers of various agencies and utility companies.
  - The expectation of dealing with residents under significant stress.

Inspecting Flood Damaged Structures

Damage Assessment Report

A Damage Assessment Report (found in the Appendix) must be completed for each damaged structure. Damage to a structure, in a flood, is based primarily on the water level reached within the structure (which should be recorded on the form). However, additional information should also be documented. Specific items that should be inspected and recorded include (if possible):

- Again, the specific height the flood water reached on the structure.
- Evidence of any sewage within the structure.
- If water flooded mechanical portions of the electrical service, furnace, water heater and/or appliances.
- If the basement walls were finished or unfinished.
- Safety; do not enter structurally unsafe areas or areas where hazardous material may be present.
- Presence of fuel oil tanks and/or fuel oil smell/spillage.
- Which utilities are functioning and which are not.
- Any observed cracks in basement walls (particularly low horizontal cracks which indicate potential wall failure).
- Debris in basements (such as an accumulation of mud).

Placarding for Habitability

Placarding a structure identifies its habitability to the public. In the Appendix section are placard templates (Dangerous – Keep Out, Unsafe Structure – Keep Out, Limited Entry - Uninhabitable, Uninhabitable – Repairs Required, Habitable – Repairs Required, and, Unaffected) and also the field handout 'Placarding – Floods' which recommends specific criteria to assist inspectors make consistent judgment calls when placarding flood damaged

structures. This is suggested criteria only and may be adjusted by the building official as situations warrant.

Inspectors should be instructed that if other than single family structures are classified as 'Uninhabitable' any persons encountered should be 'instructed' to vacate, however, enforcement is left to others (i.e. police – if deemed necessary by the local Building Official). The same applies to single family structures classified as 'Unsafe' and 'Dangerous', however, with single family structures classified as 'Limited Entry - Uninhabitable' or "Affected – Uninhabitable" it is not always appropriate to instruct residents to vacate. This decision should be made by the local building official following consultation with the disaster coordinator. These structures may be technically uninhabitable from a building code standpoint but if they are not dangerous, residents may not have optional housing available and may choose to stay in these structures.

Damage Specific to Manufactured Homes

A separate chapter addresses some of the specific issue inspectors may encounter when inspecting manufactured homes for flood damage. See Chapter 12.

Miscellaneous Information Regarding Flood Inspections:

- Beware of unexpected dangers such as rodents and snakes.
- Beware of contact with sewage on hands, clothing or boots; the possibility of disease; and the necessity for cleanliness.
- Empty fuel oil tanks often float resulting in bent and leaking fuel of lines.
- Look closely for plumbing breaks, as wet ground in crawl spaces can settle and waste and vent lines then snap off.
- Sight down basement walls looking for bowing of walls.
- While single family homes without electricity may not cause classification to be Uninhabitable, lack of electricity will result in an Uninhabitable classification for businesses, restaurants, churches, etc.

Recovery

Recovery in a flood event is when the community repairs and rebuilds from damages caused by a disaster (flood). This stage usually begins right after flood waters subside, before the Damage Assessment Phase ends, and it can last for upwards of a year or more. Often additional office and field assistance (paid) is necessary due to the sheer volume of work. Without adequate staffing, the local building department will likely be viewed by the public as (and actually may be) a drag or bottleneck slowing the recovery effort!

As mentioned, the recovery effort will begin sooner than expected and preparation for the Recovery Phase should be completed before the flood and during the Preparation Phase. Additional staffing for permit technicians, plan review and for inspections will likely be necessary (assisting volunteer staff will usually remain for the Damage Assessment Phase but not for the Recovery Phase). Written guidelines should be in place as well as decisions made regarding permit fees, office hours, time frames for plan review, etc (see Chapter 4). Handouts for the public should also be in place ready for distribution (see samples in Appendix). Staff should be reminded that they are not there just to regulate the public, but also to assist the public recover.

Permits should not just immediately be issued over the counter. When an application is received it should be reviewed against the Damage Assessment Report to determine if it is for full or

partial repair, and, the field permit card should document the scope of the permitted repair so to keep field inspectors properly informed. When issuing permits additional information can be given the public to inform, educate and protect them. Information and/or handouts to possibly attach to permits include:

- Advising them to come to a resolution with their insurance company before beginning repairs.
- Documenting damages with photographs.
- Contactor licensing requirements and the protections afforded them.
- Providing the Attorney General's handout regarding hiring a contractor.
- Storm Damage Cleanup (a handout in the manual Appendix).

Additional considerations when issuing permits:

- If structures are located within the 100 year flood plain and damaged over 50% (value based) they should first be discussed with D.N.R. representatives as rebuilding may not be allowed.
- Will a structural engineer's review of flood damaged basement walls be required (often required based on inspector's evaluation – low horizontal cracks, bowed-in walls or vertical cracks that go <u>through</u> blocks indicate potential wall failure whereas stepped cracks in mortar joints often indicates just settlement).
- Any structure damaged over 50% (based on value) should be reviewed as a possible non-conforming use whereas rebuilding might not be allowed per the local zoning ordinance.
- Hold meetings with local building, plumbing and hvac contractors and instruct them on requirements and expectations regarding permits and inspections.

Repairs to structures impacted by flood waters should address the following potential damage:

<u>Electrical systems</u>

- Although electrical inspectors inspect electrical wiring, it is important that building inspectors understand circumstances wherein the integrity of electrical materials and equipment is affected. In many instances deterioration that affects insulation, current carrying capability and mechanical operation may not develop immediately. In most instances the integrity of electrical equipment and devices is severely impaired by corrosive contaminates and sediments found in or left behind by floodwaters. Equipment and devices may operate in an unattended or unmonitored state, however, the operational failure of these devices or equipment exposes occupants and property to possible electrical shock and fire hazard.
- All panel board interiors, circuit breakers, fuse blocks, disconnect switches, controllers and similar devices that have been submerged <u>must</u> be replaced.
- All lighting switches and receptacle outlets that have been submerged must be replaced.
- All electrical equipment or components that have been submerged must be replaced. This includes, but is not limited to lighting fixtures, furnaces, baseboard heaters, space heaters, water heaters, pumps, washing machines, clothes dryers, ovens, ranges, cooktops, dishwashers, air conditioning condensing units and other appliances and equipment.

- All electrical wiring, including service conductors, feeder cables or conductors, and branch circuit cables or conductors, must be replaced where they have been either partially or completely submerged.
- For questions concerning electrical work and repairs to be completed, contact the local jurisdiction's electrical inspector or the Minnesota State Board of Electricity at 651-642-0800, or their website at www.electricity.state.mn.us

Plumbing systems

- If water lines have been partially or fully submerged they should be tested for leaks.
- After water lines have passed the working pressure test they should be flushed with water and chlorine mixture (200 parts per million for 3 hours or 50 parts per million for 24 hours).
- If tank insulation on the water heater storage tank has been partially or fully submerged in floodwater, the water heater may require replacement.
- For questions concerning inspection, testing, and corrections of the plumbing system, contact the Minnesota Department of Health, Plumbing Codes Division at 651-215-0841, or their website at www.health.state.mn.us/divs/eh/plumbing

Mechanical systems

- Metal ductwork that has been partially or fully submerged may have to be removed and cleaned. If ductwork is fiberglass board type is shall be removed and replaced with new ductwork. Appropriate ductwork insulation shall be replaced or installed.
- Gas lines and connections may require testing for leakage.
- If furnace insulation has been partially or fully submerged, replace the insulation in accordance with the manufacturer recommendations. See electrical section for actions if furnace electrical equipment or components have been partially or fully submerged.

Main structure

- Remove and replace all insulation in the floor or walls of a home that has been subjected to flood water.
- Inspect all floor decking that was submerged in floodwaters. If necessary, replace with materials rated to be used as floor sheathing for the joist spans of the floor.
- Loosen or remove siding and sheathing allowing drying of construction materials.
- Treat flood water soaked construction elements for bacteria and potential mold and mildew growth (contact the Minnesota Department of Health for suggested treatment).
- Allow areas to dry thoroughly prior to replacement of components such as insulation, vapor barriers or drywall (gypsum board).
- Note: Flood water will wick through construction elements, extending the damage beyond the benchmark of the actual floodwater.

Wells

- Water from wells can not be regarded as safe for drinking or food preparation until the well and plumbing system have been flushed and disinfected, and, a water test shows that it is safe.
- A well should be considered contaminated any time the floodwater comes in contact with the well casing.
- The Minnesota Department of Health's web page (www.health.state.mn.us) contains a brochure titled Disinfecting Flooded Wells which explains how homeowners can disinfect their own wells (a copy is in the Appendix).

Septic Systems

- If a septic system has been flooded, chances are the septic tank has collected silt. Owners should have flooded tanks pumped out as soon as possible taking care that ground water pressure does not damage the tank.
- Septic systems should not be driven over when they are saturated, this will reduce the drainfield's ability to treat wastewater.
- The Minnesota Department of Health's web page (www.health.state.mn.us) contains additional information regarding septic systems which may prove useful to homeowners.

Other Agencies Involved

Other agencies involved in flood events are largely the same agencies involved in tornado events (see Chapter 10). Some agencies, however, do play larger roles in flood events as opposed to tornado events, these include:

Department of Natural Resources

The D.N.R. will likely ask the building department to identify those structures both located within the 100 year flood elevation and that have received damages in excess of 50% of their value (repair costs exceeding 50% of appraisal value). The D.N.R. uses specific criteria to establish this benchmark. The problem may arise where the building official does not have adequate staffing to perform inspections on these structures to the level of detail requested (as damage assessment inspections and placarding are the department's top priorities). Some jurisdictions have in the past instructed inspectors to highlight those structures inspected which they feel are possible candidates for follow-up inspections to later determine applicability. These properties are not issued building permits pending further inspections. Just who performs these subsequent inspections is the decision of the local building official. They could be performed by the local building department or by an independent inspection firm - paid for by the property owner. Decisions and interpretations regarding the law's applicability are best referred to both the local city attorney and the D.N.R.

Army Corps of Engineers

This agency will typically have a larger presence in a flood event however, its direct interaction with the local building department will be minimal as it deals more with infrastructure and the local engineering/public works departments.

MN Department of Health

This agency will also have a large role (if not an actual presence) in flood events. The health dangers in a flood are very high for both victims of floods and those working in and around flooded areas (including inspectors) due mainly to the presence of sewage. This agency also deals with food establishments, wells, and septic systems, and, it is a very good source of information for identifying and relaying proper sanitation precautions in and around floods (and for flood clean-up).

It is recommended to attach their flood clean-up handouts from the Department of Health and Pollution Control Agency (in Appendix) to issued permits.

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CHAPTER 7

MANUFACTURED (MOBILE) HOME FLOOD DAMAGE ASSESSMENT and MITIGATION

Flood damage to manufactured homes in recent years has presented the need for the Minnesota Building Codes and Standards Division to review the handling of flood damaged manufactured homes within Minnesota. The following are items this division encourages municipalities that have manufactured homes installed in parks and on private property, within their jurisdiction, to use to inform manufactured home residents of possible damages and hazards caused by flooding. These items may also be used by the authority having jurisdiction in determining corrections that may be required to the manufactured homes and the home installation or if the manufactured home should be tagged as uninhabitable.

The three types of pressures caused by flooding are hydrostatic, hydrodynamic, and debris impact. Damages usually associated with flood damage to manufactured homes are;

- Saturation of soils causing footings, piers, and foundations to become unstable or fail,
- Floatation may cause support and anchoring systems to become unstable or fail,
- Lateral displacement of the homes ceilings, walls and floors,
- Cracking of wall and ceiling finishes,
- Saturation of insulation materials in floors and walls,
- Saturation of floor framing and decking materials (floor decking is typically structural particle board and is adversely affected by water),
- Siding, wall sheathing and interior wall finishes.
- Mechanical duct work located in belly (floor) area of home (metal or fiberglass or flexible connector),
- Gas and oil lines and connections in and under the home,
- Plumbing systems of the home (drain/waste/vent and water),
- Electrical systems of the home in floors and walls,
- Furnace and water heater,
- Mold from water damage or sustained high humidity levels.

The following should be inspected and corrective action taken as deemed necessary.

<u>Support system and anchoring</u>

1. Remove skirting to allow drying under the home.
2. Remove any vapor barriers on the ground under the home to allow drying of soils (replace vapor barrier when soils are dry).
3. Check soils in areas of footings/piers for undermining.
4. Check anchors for damage to anchor, strapping, or strapping connectors.
5. Check anchors to verify that they are solidly in the soil.

6. Check pier supports and blocks to verify they are not loose or damaged and verify that shims between pier and home frame are secure.
7. If soil erosion has occurred or if lack of soil exists to create positive drainage away from home have it reworked.

Note: All manufactured home installations or re-installations are to be completed by a Minnesota licensed/registered installer in Minnesota. Effective on June 26, 2000, all HUD labeled manufactured homes installed or re-installed in Minnesota are required to be anchored.

Electrical systems

It is important that property owners recognize circumstances wherein the integrity of electrical materials and equipment is affected. In many instances deterioration that affects insulation, current carrying capability and mechanical operation may not develop immediately. In most instances the integrity of electrical equipment and devices is severely impaired by corrosive contaminates and sediments found in or left behind by floodwaters. This equipment and the devices may operate in an unattended or unmonitored state. The operational failure of these devices or equipment exposes occupants and property to possible electrical shock and fire hazard.

1. All panelboard interiors, circuit breakers, fuse blocks, disconnect switches, controllers, and similar devices that have been submerged must be replaced.
2. All lighting switches and receptacle outlets that have been submerged must be replaced.
3. All electrical equipment or components that have been submerged must be replaced. This includes, but is not limited to lighting fixtures, furnaces, baseboard heaters, space heaters, water heaters, pumps, washing machines, clothes dryers, ovens, ranges, cooktops, dishwashers, air conditioning condensing units and other appliances and equipment.
4. All electrical wiring, including service conductors, feeder cables or conductors, and branch circuit cables or conductors, must be replaced where they have been either partially or completely submerged.
5. A licensed Minnesota Electrical Contractor must complete all electrical repairs or electrical work on manufactured homes located in a manufactured home park.
6. Have a licensed electrical contractor test all circuits and equipment after repairs/replacements have been completed.
7. For questions concerning electrical work and repairs to be completed, please contact the Minnesota State Board of Electricity at 651-642-0800, or the website www.electricity.state.mn.us

Plumbing systems

1. Check drain/waste lines and connections under the home for leaks, proper slope, and support to the home.
2. Waste and vent lines should be air tested and able to hold a one-inch water column.
3. If water lines have been partially or fully submerged they must be tested (air test to maximum working pressure 80psi, MSPC 4715.1740) for leaks.
4. After water lines have passed the working pressure test they are to be flushed with water and chlorine mixture (200 parts per million for 3 hours or 50 parts per million for 24 hours).

5. If the tank insulation on the water heater storage tank has been partially or fully submerged in floodwater, the water heater requires replacement.
6. If you have questions concerning inspection, testing, and corrections for the plumbing system, please contact Minnesota Department of Health, Plumbing Codes Division at 651-215-0841, or the website at www.health.state.mn.us/divs/eh/plumbing

Mechanical systems

1. Metal ductwork that has been partially or fully submerged may have to be removed and cleaned. If ductwork is fiberglass board type it shall be removed and replaced with new ductwork. Appropriate duct insulation shall be replaced or installed (CFR 3280.715 requires R-4 minimum).
2. Have gas lines and connections tested for leakage (test as per MSBC 1350.3400).
3. Have fuel oil lines tested for leakage.
4. If furnace insulation has been partially or fully submerged, replace the insulation in accordance with the manufacturer recommendations. See electrical section for actions if furnace electrical equipment or components have been partially or fully submerged.

Main structure

1. Remove bottom board (belly paper) if area was partially or fully submerged to allow inspection and corrections to electrical, plumbing, and mechanical systems/materials located in this area.
2. Remove and replace all insulation in the belly (floor) area or walls of the home that was subjected to flood water.
3. Remove and replace all floor decking that was submerged in floodwaters with materials rated to be used as floor sheathing for joist spans of floor.
4. Loosen or remove siding and sheathing allowing drying of construction materials.
5. Treatment of flood water soaked construction elements for bacteria and potential mold and mildew growth (contact the Minnesota Department of Health for suggested treatment). Allow areas to dry thoroughly prior to replacement of components such as insulation, vapor barriers, drywall, and decking.
6. Remove and replace all drywall (gypsum board) products that have been subjected to floodwaters. A vapor barrier is required to be replaced to the warm side of exterior walls and ceilings.
7. When replacing floor decking, no interior walls of the manufactured home may be removed or relocated because of shear wall designs of the manufactured home. Removal or relocating the walls constitutes an alteration and is a violation of MSBC 1350.3800.

Note; Flood water will wick through construction elements, extending the damage beyond the benchmark of the actual floodwater.

Repairs or corrections to the construction elements of the home by other than the titled owner are required to be completed by a Minnesota license contractor or remodeler as required by Minnesota Statutes 326.83 through 326.991. For information concerning licensed contractors or remodelers, please contact the Minnesota Department of Commerce, Contractor Licensing Section at 651-296-4026.

Minnesota Building Code 1350.3800, Alterations; Any alteration of the construction, plumbing, heating, cooling, or fuel burning system, electrical equipment, or installations

which bears a seal or label (State seal on homes manufactured from 7/1/72 through 6/14/76 or HUD label on homes manufactured after 6/14/76) shall void the approval, and the seal or label shall be returned to the commissioner.

The authority having jurisdiction, local building officials or Minnesota Building Codes and Standards Division personnel may inspect the manufactured home and consider it beyond repair and not fit for habitation based on the amount of flood damage or that repairs would constitute re-manufacturing of the manufactured home. The local building official will inform you what permits are needed for repairs to ensure that all work is properly completed and inspected. If you have questions concerning the corrections required please contact the local Building Official having jurisdiction or the Minnesota Building Codes and Standards Division at 651-296-4639 or 1-800-657-3944, or at the website www.buildingcodes.admin.state.mn.us

If the authority having jurisdiction, local building officials or Minnesota Building Codes and Standards Division personnel, determine that the home is beyond repair and not fit for habitation the following procedures are to be use to salvage/scrap the manufactured home.

1. State construction seals (July 1, 1972 – June 14, 1976) or HUD construction labels (June 14, 1976 to the present) are to be removed and returned to the commissioner (Minnesota Building Codes Division).
2. Homeowner or owner of title is to return the manufactured homes original Minnesota title to the Minnesota Building Codes Division along with a letter indicating why the title is being surrendered. Surrendered titles will be forwarded to the Department of Public Safety for recording.
3. Letter indicating the final disposition of the manufactured home, salvaged, destroyed, sold as salvage (include buyers name and address).

CHAPTER 8

OBTAINING DAMAGE ASSESSMENT INSPECTION ASSISTANCE

Occasionally a local jurisdiction's building staff will be overwhelmed by the amount of work and effort required both during and following a disaster event. There can be more structures to inspect, permits to issue, plans to review, phone questions to answer and decisions to make, than existing personnel can effectively handle. Putting in extra hours may not be enough. In these cases, a building division may need immediate assistance in the form of additional qualified building inspectors to conduct damage assessment inspections, and qualified clerical staff to process and issue permit applications.

Building officials often obtain additional inspection personnel (after receiving approval from a supervisor) by the following methods:

- Contacting the Association of Minnesota Building Officials (AMBO) Disaster Preparedness Committee.
- Contacting the State Building Codes and Standards Division, State Building Offical directly for assistance in administering the disaster.
- Directly contacting other area building inspectors they know and requesting assistance.
- Contacting certain building officials with wide contacts that can put out the word of needed assistance.
- Contacting local building official chapter groups and other similar organizations to spread the word.
- Requesting the assistance of city or other local engineers.
- Contacting the MnSEER committee (see page 42).

Note: Obtaining assistance from other Minnesota governmental jurisdictions allows legal and insurance issues (and reimbursements) to be relatively straightforward along legislated guidelines. (See Chapter 11 - Legislation) Often, inspectors currently working for one jurisdiction and volunteering to assist another jurisdiction do not anticipate reimbursement to their jurisdiction, however, if state/federal disaster declarations occur, this may result in reimbursement being offered and accepted.

Prior to making requests for inspection assistance, the following issues should be considered and decided:

- Approximately how many buildings must be inspected? Often the number will be more than originally estimated.
- How quickly must the initial inspection of all damaged buildings be completed? Will inspectors be working alone or in pairs? Typical wisdom is that 2 inspectors working together as a team is best.
- How many additional inspectors per day will be needed to have all damaged sites inspected?
- Should a separate 'coordinator' be utilized? If supervising 'volunteer' inspection teams, this is recommended.

- Will assisting inspectors be available for 1 day – 1 week? You may need to schedule and stagger volunteers.
- For how long will voluntary assistance be available? This varies significantly on the type, size and location of the event. One week to ten days is average unless it is a major event.

The following should be communicated to assisting inspectors prior to their departure:

- Where the building division offices are located.
- Who the inspector is to initially contact at the city.
- What equipment the assisting inspector should bring and what will be provided.
- Anticipated use of their vehicle.
- Time frame of assistance and expectations of reimbursement.
- Bring photo and inspector identification.

When assisting inspectors arrive an orientation should be conducted (preferably as a group) and to include:

- Staff introductions.
- Any initial documentation required of the assisting inspector (i.e. deputizing, entry passes, etc.).
- Goals and objectives of the effort.
- Timecard use.
- Damage assessment forms and how to complete.
- Placards, definition and use of each.
- Right of entry issues.
- How to conduct inspections, what to look for, what to document, how to document, and how long an average inspection should take.
- Handouts and information sheets on city policies and procedures.
- Who has demolition order authority.
- What to say if contacted by the media.
- What to say to homeowners – anticipated/typical questions.
- Any handouts intended for residents.
- Who to call if a dispute erupts with a resident.
- City maps (identifying damaged areas, closed roads and individual addresses).
- Phone numbers (office, police, fire etc.).
- City's extended hours of operation.
- Minimum equipment supplies each inspector to have.
- Information sheet identifying restaurants, local housing – clinics.

At the end of each morning and at the end of each day the coordinator should:

- Verify all inspectors return safely.
- Collect all inspection results.
- Verify time sheet submittals.
- Verify inspector teams for the following day.
- Answer policy and interpretation issues that may have come up.

Assisting another city will undoubtedly be a burden on the jurisdiction providing assistance and, except in extreme cases, help is offered for the damage assessment phase only. The affected city will typically be responsible for hiring additional personnel for the recovery stage (if additional personnel are needed). Obtaining this type of short term, temporary inspection help for the recovery stage can be difficult. Some suggested sources include:

It is recommended that assisting cities view offering assistance as valuable training for both office and field staff, which it is. Further, it is also suggested that assistance be offered in the second or third week, instead of the traditional first week, thereby providing additional assistance and allowing staff to receive valuable training at a minimal cost. (Note: assisting personnel are usually offered for one or two days on an individual basis unless it is a major event and specific arrangements are agreed to).

Per reference on page 39

April 15, 2003

Announcing the Formation of the
Minnesota Structural Engineering Emergency Response Program (MnSEER)

The Minnesota Structural Engineering Emergency Response Program (MnSEER) is a volunteer effort to supply structural engineering expertise in a time of emergency. Damage from natural and manmade events, such as snowstorms, floods, windstorms, bomb blasts or terrorist incidents can cause widespread damage to buildings, bridges and other structures. In the aftermath of any of these incidents, there is a need for immediate evaluation of affected structures to protect the public safety. The scope of structural engineering services necessary in these post-event evaluations is often beyond the staffing capacities of local building officials, inspectors, firefighters and other volunteers who may be first to respond to the disaster scene. The MnSEER effort will provide a framework to identify, train and coordinate individuals that will share their professional expertise with local governmental entities in charge of emergency response in order to provide a rapid safety evaluation of structures.

The Minnesota program is based on the Structural Engineering Emergency Response Plan (SEERPlan) prepared by the National Council of Structural Engineering Associations (NCSEA), with assistance from the Council of American Structural Engineers (CASE). A local organizing committee (MnSEER Committee), consisting of members from CASE and American Society of Civil Engineers (ASCE), has formed to manage this effort. The program has three main components:

- Identifying, training and mobilizing volunteers
- Establishing relationships with local and state governmental agencies/officials having jurisdiction in emergency situations
- Coordinating actual post-event assessments

A one-day training program, to be held in the Twin Cities, is tentatively scheduled for Thursday, June 26. The training is geared to provide volunteer professionals with a uniform and proven methodology for conducting rapid safety inspections of structures. The program is based largely on ATC-20, a standard developed by the Applied Technology Council in the late 1980's for post-earthquake structural safety evaluations. This standard has been widely used all across the United States.

Volunteers with various levels of experience and expertise are encouraged to participate. An emergency response deployment will require individuals to perform administrative support functions and/or work as members of assessment teams detecting structural distress, as well as professional engineers with considerable experience in the design and construction of structures to act as coordinators and team leaders. The MnSEER committee will maintain volunteer records and contact information.

Communication is ongoing with individuals from Minnesota Department of Public Safety, Minnesota Building Codes and Standards Division and local fire departments to inform responsible individuals of the MnSEER effort, and to define a cooperative approach. In the near future, information will be disseminated to the Minnesota engineering community about registration for training, as well as other related activities being conducted by the MnSEER Committee.

For additional information, contact one of the following individuals on the MnSEER Committee:

Tom Lorentz, P.E., MnSEER Committee Chair, 612/330-0250, telorentz@aecengineering.com
John Paul Gille, P.E., 651/407-6056, jpgille@paulsonclark.com
Jerry Hajjar, P.E., 612/626-8225, hajjar@struc.ce.umn.edu
Mike Lederle, S.E., 952/656-4577, mike.lederle@opus-ae.com
Eriks Ludins, P.E., 651/266-6184, eriks.ludins@stpaul.gov
Andy Rauch, P.E., 763/843-0420, arauch@bkbm.com

CHAPTER 9

COMMUNICATIONS DURING AN EMERGENCY

Communications, as might well be imagined, will be critical and will have a significant impact on the success of building division efforts. The building official must not forget that just as important as communicating with staff, will be communicating information to citizens whose homes or businesses have been damaged. Some recommendations regarding communications include:

Communicating with staff:

- Conduct orientations (including both office and field staff) prior to beginning each day (group sessions if possible).
- Conduct debriefings at the close of each day (group discussions of work status).
- Provide policy handouts both to office and field personnel to ensure accuracy and consistency of information being given out.
- Each field inspector (or pair) should have a cell phone or radio for communications. If not possible, field personnel should check in with the office every 4 hours (for both safety and communication reasons).
- Building official to keep supervisor updated frequently.
- Building official must be aware of any disaster declarations which would necessitate additional responsibilities in report/documentation.

Communicating with the public:

- Most property owners impacted by a disaster will be unfamiliar with the recovery process. This will also be a highly emotional time for them. It is recommended that patience, tolerance and compassion be emphasized to all staff when dealing with individuals struggling to recover from a disaster event.

- It is recommended to have policy handouts written and available to give to the public regarding building division activities (example in Appendix). Including:
    - The purpose and process of damage assessment inspections.
    - What the different placards mean, what restrictions they impose and what actions are necessary to change those classifications.
    - Phone numbers of agencies the public may need to contact when dealing with repairs to structures, such as: building department, utility companies, fire and police departments, public works department, Commerce Department, Minnesota Homeland Security Emergency Management, F.E.M.A., Red Cross and volunteer center.
    - Information regarding obtaining building permits:
        1. When permits are required.
        2. How to obtain permits.

3. When plans and/or reviews are required.
4. How long it takes to obtain permits.
5. Contractor licensing requirements and benefits.
6. Steps necessary prior to utility re-hookups.
7. Steps necessary to obtain an occupancy certificate on a structure placarded as uninhabitable.
8. Building department hours of operation and phone numbers.

How to communicate with the public:

- Through office staff – over the counter and on phones.
- Inspection staff – flyers/handouts given to the public or posted when inspecting.
- Flyers/handouts given out by volunteers.
- Flyers/handouts posted on telephone poles or portable kiosks.
- News media (through your city's communication person).
    - TV
    - Cable
    - Radio
    - Newspapers
    - Town meetings

Communicating with the media:

- View as an asset, which can pass information to the public.
- Pass information through the city's communication representative.
- Instruct inspectors/office staff on what to say if contacted by news crews. (Typically to contact city's communication representative for information on the extent of damage).
- Learn dos and don'ts of talking to the media - attend classes before an emergency strikes.

Typical communications problems:

- Phone lines may be down (possibly the citizen's or the jurisdiction's) or may be overloaded and difficult to get through.
- Cell phones may not work (towers may be down) or they could also be overloaded and slow.
- Citizen may be without electricity for radios and TV - no way of receiving communications.
- Some homeowners not allowed back into damaged homes and not knowing what to do next. Angry, confused and frustrated.
- Citizens will typically not be familiar finding contractors for either emergency or permanent repairs and often will request advice and assistance from building staff. Even if names can't be given, methods of finding contractors can be communicated. A list of licensed contractors from the Department of Commerce, or a list of local contractors could be made available.

CHAPTER 10

OTHER AGENCIES INVOLVED IN RELIEF EFFORTS

Listed here are other agencies often involved in natural disaster response efforts along with a brief description of their typical role. This list is for information only – it is typically not the building official's responsibility to contact these agencies directly (consult your jurisdiction's Emergency Management Plan for your assigned responsibility). However, the building department's role is significant and the building official will be more effective if he/she is knowledgeable of the overall effort, the responsibilities of other agencies, and how and where the building official's role fits and interacts.

Each agency that provides disaster recovery assistance establishes its own criteria as to if and when its assistance will be provided. Also, each agency's role can vary from one disaster to the next depending on the area of the state affected, the degree and scope of the damage inflicted, and the capabilities of the local jurisdiction. This results in a fluid condition, and any attempt to describe these roles must be limited to generalities.

Local Jurisdiction:

- This is the affected area's political subdivision – typically a city, township or county from which the immediate and primary response effort is launched and coordinated. Generally the local jurisdiction has authority for the response effort.

- The role of various departments within different jurisdictions will vary significantly depending on size and makeup. There may be an Emergency Management Plan in effect that outlines the general responsibilities of the various municipal departments and it will typically include any responsibilities assigned to the building official. In non-code enforcement areas the local authority must decide the extent of this role (building official) with regards to damaged buildings (except for state-regulated buildings), and, who is to perform it.

County:

- County government involvement will vary depending on the specific county involved, the extent and magnitude of damage, and the capabilities of the local jurisdiction. The more involvement a county has in the building permit and inspection process, the more directly it will be involved in this aspect of the response and recovery phases. Also, counties may act as a higher level of coordination between affected local jurisdictions.

- Each county has designated a County Disaster Coordinator for relief efforts. The building official should be aware of who fills this role and have the phone number.

State of Minnesota:
State involvement/assistance is offered in two ways:

- Assistance from state agencies.
- Disaster relief funding (if a state declaration is called).

Following are some state agencies and a description of their typical involvement.

- Department of Public Safety – Division of Homeland Security and Emergency Management.). This division coordinates the activities of state agencies during a disaster and is typically involved in disasters large and small. It offers assistance to the local jurisdiction and helps guide events rather than control them. It mainly operates at a higher level of coordination than the building official who would typically have more direct involvement with the other agencies it coordinates (such as the Building Codes and Standards Division or Pollution Control Agency). Homeland Security and Emergency Management does act as a regulator of state assistance funding and the building official's damage assessment inspection reports may be used to qualify for some state and national assistance and reimbursement funding. If a local jurisdiction requests state assistance, the building official often becomes involved by providing documentation of structure damage (possibly with dollar loss estimates).

  The Homeland Security and Emergency Management Duty Officer System exists to ensure the proper receipt and dissemination of emergency notifications to state and local government agencies. Hazardous materials accidents and radiological incidents discovered by building officials should be reported to the Homeland Security and Emergency Management Duty Officer (1-800-422-0798/24 hours) in addition to the local jurisdiction.

- Building Codes and Standards Division.

  This division's role will vary, primarily depending on the level of local code enforcement in an affected area. If requested by the local jurisdiction, this role can include:
  - In outstate areas the division's regional representative may act as a coordinator between the local jurisdictions or actively assist the local building official.
  - Perform damage assessment inspections of state-funded buildings, hospitals, and schools.
  - Offer advice and interpretation to local building officials and the public.

- State Board of Electricity.
  - May coordinate efforts of local inspectors and utilities, if requested.
  - Typically will not initiate inspections of damaged buildings.
  - Will provide additional inspection personnel when recovery has begun if inspection requests increase.

- Health Departments (city/county/state).
    - Typically will not initiate inspections in an affected area.
    - Once notified a use (i.e. restaurant, food warehouse, etc.) has been damaged or affected in some way, it would conduct inspections regarding health issues.

- Department of Natural Resources.
    - In flood events this agency will work closely with the local building official regarding structures damaged over 50% which may not be allowed to be repaired.

- Commerce Department.
    - Possibly may send a representative to assist local officials with contractor licensing laws and enforcement. This can prove to be very valuable assistance. The Commerce Department also regulates the insurance industry and can assist homeowners in dealing with the complex and often confusing questions arising from filling out insurance claims.

- Pollution Control Agency.
    - Becoming more involved with demolitions and required hazardous material removals from structure debris along with inspections to verify compliance. Typically will send a representative but not inspectors. Local jurisdiction may not have staffing to assist.

- National Guard.
    - The National Guard may be called in to provide security to a damaged area. Inspectors may need authorization badges in order to enter these damaged areas. The potential exists for delays in beginning damage assessment inspections in a secured area if authority is not arranged immediately(see Appendix for a sample authorized pass).

Public Utilities:

- Public utilities (such as gas, electric, and phone) will send crews into a damaged area immediately. Little interaction occurs here with the building official unless dangerous conditions are observed during the course of an inspection and notification is necessary. However, what must be coordinated are any required inspections and signoffs prior to reconnecting individual structures to gas and electric lines. Procedures will vary significantly. Building inspectors should be aware of procedures so they can answer questions from property owners.

Federal Emergency Management Agency (FEMA):

- This federal agency coordinates the delivery of federal disaster recovery assistance in the event of a presidential declaration of a natural disaster. Its main effort is to help re-establish local government and infrastructure, however it also distributes emergency funds to citizens.

- Local officials anticipating a presidential declaration are encouraged to take pictures of damaged sites soon after the event and to keep records of any restoration work. Additional inspections of damaged buildings and providing damage assessment documentation required by FEMA will be the building official's main interaction with FEMA.

- FEMA also is involved in the demolition of structures by way of reimbursing disposal costs. This will directly tie into building staff work of damage assessment inspection/documentation and permit issuance on buildings set for demolition – here, proper documentation is vital.

Minnesota Historical Society

- In communities with historic buildings, contact the Historical Society for a copy of their pamphlet – Disaster Plan for Historic Buildings.

Minnesota Voluntary Organizations Active in Disaster (MNVOAD):

- Many volunteer organizations are active in Minnesota. MNVOAD was formed in order to ensure an efficient and effective response by these organizations. They can mobilize very quickly and begin to meet basic human needs almost immediately, and often they become the only disaster assistance provider in the small disasters. The following are active in Minnesota:
    - American Red Cross – Note: the St. Paul Chapter of the American red Cross serves as the overall coordinator of disaster recovery assistance provided by MNVOAD. The American Red Cross will do an assessment of damage to residences in the disaster area as a part of their disaster relief operations. You can make arrangements to obtain copies of their damage assessment reports by contacting their "Job Director". Their procedures closely mirror those of FEMA inspectors, but FEMA and Red Cross damage assessment categories differ slightly.
    - Catholic Charities.
    - Civic Air Patrol.
    - Mennonite Disaster Services.
    - R.E.A.C.T.
    - Salvation Army.
    - Seventh-Day Adventists Disaster Services.
    - United Methodist Church.
    - U.S. Army MARS.
    - American Radio Relay League.
    - Christian Reform World Relief Committee.
    - Minnesota Search and Rescue Dog Association.
    - Church of the Latter Day Saints.
    - Minnesota Southern Baptist Convention.
    - Lutheran Disaster Relief.

Building officials typically will not make nor have much interaction with these organizations,

however, some of the services they have provided in the past, such as distributing informational flyers that contain information about government services, have proven very beneficial to building departments in getting information out to the public.

It is very difficult for the local disaster relief coordinator to effectively organize all these parties. Typically as a disaster event unfolds and progresses, the relationship and interactions between these agencies change. To expect numerous agencies to perform harmoniously without prearranged guidance and streamlined systems in a disaster event is unrealistic. The old adage that "one hand doesn't know what the other is doing" will seem to be an understatement at times. The building official and staff should be aware of this and not contribute to it or aggravate it. Therefore, the building official must be keep aware of changing conditions, duties and responsibilities expected of his/her staff.

CHAPTER 11

LEGISLATION CONCERNING DISASTER ASSISTANCE

The following information is provided with permission from the League of Minnesota Cites. Please visit their website to access the latest information. www.lcit.lmnc.org

Covering the City's Volunteers

Providing Assistance in Emergencies: Coverage and Liability Issues (Minnesota Statute 12.331)

LMCIT
Risk Management Information

145 University Avenue West, St. Paul, MN 55103-2044
Phone: (651) 281-1200 • (800) 925-1122
Fax: (651) 281-1298 • TDD (651) 281-1290
www.lmcit.lmnc.org

COVERING THE CITY'S VOLUNTEERS

Cities in Minnesota use volunteers to help provide a wide variety of services. Firefighting, ambulance or first responder service, community recreation, "clean-up days," senior citizen programs, community celebrations, and traffic control are only a few of the services which volunteers commonly perform for cities. Occasionally cities ask who's liable if a city volunteer is injured, injures someone else, or damages someone else's property. We'll try to sort these questions out in this memo.

It's important to keep in mind that we're talking here about *city* volunteers. Not every volunteer performing a community service is a city volunteer. Individuals often volunteer their services in connection with a project sponsored by a private organization they belong to. Other units of government may sponsor volunteer programs; Mn/DoT's "Adopt-a-Highway" program is an example. Sometimes individuals simply perform community services on their own, without being sponsored or requested to do so by the city or anyone else. When we talk in this memo about city volunteers, we're talking about individuals who are performing services as part of a *city* function and under the *city's* direction and supervision.

What happens if a city volunteer injures someone else or damages someone's property?

City volunteers are protected against tort liability in the same way as the city's officers and paid employees are. This is the result of a 1988 amendment which brought city volunteers under the municipal tort liability act, Chapter 466 of the statutes.

Statutory protections

The tort liability act protects the volunteer two important ways:

- First, the statute limits the volunteer's maximum liability to $300,000 per claimant and $1,000,000 per occurrence.

- Second, it requires the city to defend and indemnify its volunteers against claims for damages when the volunteer was acting in the performance of his or her duties as a city volunteer.

This latter provision provides an extremely valuable and important protection to the volunteer. In effect, it means that when a person is acting in the performance of his or her duties as a city volunteer, the risk of tort liability is on the city - not on the individual volunteer. The only

exception to this duty to defend and indemnify the volunteer is if the volunteer's actions constituted malfeasance, willful neglect of duty, or bad faith. That is, the statutes don't require the city to protect an individual from the consequences of his or her own intentional wrongdoing.

LMCIT liability coverage

For member cities of the League of Minnesota Cities Insurance Trust, the city's LMCIT liability coverage is designed to provide similar protection to the city and its volunteers. Both the city and the volunteer are "covered parties" under the liability coverage. In other words, LMCIT would respond to a claim whether brought against the city, against the volunteer, or against both.

The LMCIT coverage also provides an additional type of protection to the individual volunteer. It will cover the cost of defending a claim against a volunteer, even if the claim accuses the volunteer of an action that would constitute malfeasance, willful neglect of duty, or bad faith. LMCIT would not, however, cover the damages awarded against the volunteer if it is determined that the volunteer's action did in fact constitute malfeasance, neglect of duty, or bad faith.

Keep in mind, of course, that the LMCIT coverage document does exclude coverage for certain kinds of liability; environmental impairment is an example. Those same exclusions would apply whether the claim is made against the city or against the individual volunteer.

What happens if a volunteer is injured while performing volunteer work for the city?

There are several possibilities, depending on the circumstances and the kind of activities the volunteer was engaged in.

Workers' compensation

Certain volunteers are defined by statute (M.S. 176.011, subd. 9) to be "employees" for purposes of workers' compensation. These include

- Volunteer firefighters
- Volunteer ambulance attendants
- Volunteer First Responders
- Law enforcement assistance volunteers
- Civil defense volunteers
- Disaster assistance volunteers, if registered with the city (M.S. 12.22, subd. 2a)

These volunteers are entitled to receive workers' compensation benefits if they are injured while performing volunteer services for the city. Note that volunteer First Responders are considered to be "employees" only if the First Responder team is "acting under the supervision and authority of a political subdivision". In other words, a volunteer member of First Responder team that's organized independently of a city or other political subdivision apparently isn't an "employee" for purposes of work comp, and would not be entitled to work comp benefits from anyone if injured.

54M.S. 176.011 says that for most of the types of volunteers listed above, if the unpaid volunteer's injury disables him/her from working, work comp benefits are to be based on the wage of paid employees performing similar services. In a recent case involving a volunteer firefighter, the court ruled that benefits for the firefighter should be based either on the wage of a paid firefighter in a nearby city or on the firefighter's own actual earnings from his regular employment, whichever is greater. The same reasoning would probably apply to other types of volunteers as well, though the statutory language is slightly different and the courts have not yet addressed this question for volunteers other than firefighters.

Tort claims

Other types of volunteers are not deemed to be "employees" and are therefor not covered by workers' compensation. If one of these volunteers were injured while performing services for the city, he or she might be able to make a tort claim against the city or against a city officer, employee, or even another volunteer. This kind of claim by a volunteer would really be no different from any other tort claim. In order to recover damages from the city, the injured volunteer would have to show that his or her injury was caused at least partly by the city's negligence or the negligence of a city officer, employee or other volunteer; and that he or she wasn't more at fault for his or her own injury. The statutes also make the city immune from liability in certain circumstances; in some cases, this immunity may prevent a volunteer from recovering from the city.

Of course, if the volunteer's injuries were caused by someone other than the city or the city's officers, employees, or volunteers, the injured volunteer may be able to bring a tort claim against that person.

"Premises medical" coverage

Many cities also carry "premises medical" coverage as part of their general liability coverage. "Premises medical" coverage generally provides a relatively small amount of coverage for medical expenses resulting from an injury caused by a condition on city-owned property. (The LMCIT liability coverage includes premises medical coverage, with limits of $1000 per person and $10,000 per occurrence; this can be deleted at the city's option.) This is a "no-fault" coverage; that is, the injured person receives the benefit without having to show that the injury resulted from the city's negligence. In some circumstances, the premises medical coverage might apply to an injured volunteer's medical costs. However, exclusions in the premises medical coverage will rule out coverage in many cases; for example, injuries that occur while a person is involved in maintenance or alteration of the property, or while participating in any way in athletics are commonly excluded.

In some cases, though, the volunteer will not be able to recover either from the city or from anyone else for his or her injuries. Some examples would be if the volunteer him/herself were more at fault than the city, or if the city were immune from liability in this particular situation, or if the injury were simply an accident that really wasn't anyone's fault. A volunteer coach being hit in the head by a batted baseball might be an example of the latter situation. In these

55situations, the injured volunteer would have to rely on his or her own health and/or disability coverage.

Accident coverage for volunteers

LMCIT also offers another coverage option for city volunteers. This program provides a schedule of benefits to compensate city volunteers who are injured while performing volunteer services for the city. This optional coverage is available to member cities of the LMCIT workers' compensation program.

This coverage will protect the city's volunteers on a "no-fault" basis. The benefits are automatically payable if the injury occurs while the volunteer is performing services for the city, regardless of whose fault it was. Besides protecting the volunteer whose injury isn't caused by the city's negligence, having these no-fault benefits available could also help avoid litigation in cases where the city (or a city officer, employee, or other volunteer) is or may be at fault. The injured volunteer can receive these benefits without getting into an adversary situation against the city.

The coverage includes short-term disability protection, a lump-sum "impairment" benefit for any total or partial permanent disability, and a death benefit. A small amount of medical coverage is also available as an option.

The program is designed to cover the city's volunteers on a blanket basis. With only a few specified exceptions, all of the city's volunteers will automatically be covered if the city chooses to add this coverage. Premiums are based on the city's population. The basic charge is $.10 per capita, subject to a minimum premium of $150 and a maximum premium of $1500. There is an additional charge to add the medical coverage, or to add coverage for volunteers on construction or demolition projects.

Additional information

These LMCIT Risk Management Memos provide additional information on related topics:

- Workers Compensation for Volunteer Firefighters
- Providing Assistance in Emergencies: Coverage and Liability Issues
- Responding to Emergencies While Off-duty: Liability and Workers Compensation Issues for Emergency Personnel
- Accident Coverage for City Volunteers
- Coverage for Injuries to Elected and Appointed Official

CHAPTER 12

ADVICE FROM OTHER JURISDICTIONS

Following are pieces of advice offered by building officials who have experienced first hand the effects of natural disasters. Each disaster experience is, of course, unique; however, advice is often worth considering. Also keep in mind this is only advice and it should be considered in light of the severity of the event occurring.

1. Do not waive permit fees following a natural disaster. At first the inclination is to be compassionate, however, many additional expenses will be incurred by the building division (inspection assistance, printing, fuel, materials, overtime, etc.). Also, the cost of permits is typically covered by homeowners/business insurance. Immediately inform your supervisor of the long-term consequence.

2. The amount of effort and work required to complete damage assessment inspections is typically underestimated. With adequate, qualified assistance you will complete the process much sooner, which is of significant benefit to the community.

3. Depending on the severity of the occurrence, the building official should not go into the field performing inspections, but rather, stay in the office to coordinate inspection/office activities, and, to make decisions and answer questions.

4. Obtain a volunteer building official (from outside the affected city) to coordinate volunteer inspectors and to schedule all field inspections.

5. When performing initial damage assessment inspections, inspectors should work in pairs so that one inspector can discuss with and inform the homeowner, while the other performs the inspection. This is particularly true when inspecting a severely damaged structure (safety reasons).

6. Look at and inspect those homes adjacent to visibly damaged buildings for hidden damage not readily apparent from the exterior. Often a change in air pressure can damage a home (interior sheetrock cracks can indicate hidden damage).

7. Identify on the placard which aspects of a structure have been inspected and which have not when a damaged structure is placarded ‘habitable’. Some utility companies will view ‘habitable placards’ as verification that the mechanical/electrical systems have been approved for re-hookups.

8. If you are volunteering to help another city in the damage assessment phase, do not arrive until a time has been verified. Often an affected jurisdiction needs set-up time to prepare for volunteers.

9. Beware that city, state and federal damage assessment forms are not interchangeable and may not be compatible. This will likely not change in the near future as each agency requires different information and processing. The resultant multiple inspections required for many sites will appear to be bureaucracy at its worst (especially to home and business owners), however, at this point in time it is reality.

10. When roofing companies come into town, following an event, be sure to initiate inspections on some of the first jobs so that work can be inspected and workers instructed regarding local conditions and codes. This will help avoid large scale problems arising later.

11. Following a wind storm/tornado event, attic insulation is often blown away from the wall line resulting in cold spots and ice dams the following winter. Attics in a few undamaged homes should be inspected to identify this potential problem.

12. Establish a common format for all to use when estimating dollar amounts of damages. It is very difficult to estimate these amounts accurately and consistently (also compare with Red Cross estimates). If possible, have an assessor identify damage amount estimates.

13. It can be helpful to set up districts or quadrants and to assign specific inspectors to each area.

14. Keep good records of inspection results and record the purpose of the inspection. Other groups may try to use this information for their own purposes later.

15. Other groups (i.e. Red Cross or FEMA) may be out doing their own surveys. However, only the building inspector (or other assigned personnel such as the city engineer) has the authorization to placard damaged structures as habitable or not.

16. Accurate maps (with addresses on them, if possible) are very valuable. Often house numbers and street signs have blown away.

17. It is much easier to deal with residents if you have good handouts to give covering the most common types of repairs (roofing, siding, windows, garages, fences, etc.).

18. Many homeowners will want the building inspector to solve their problems dealing with insurance companies. The best one can do is provide good advice, provide copies of code sections and try to stay out of the middle (also can refer them to the Commerce Department).

19. A common structural problem that can show up later is cracking of plaster and gypsum. Movement due to pressure differential and settling may take months to become apparent.

20. Cracked foundations are a problem as to whether or not they were caused by the event. Inspectors should document observations but not speculate on the cause.

21. If you have inspectors estimate a dollar figure for damage, others will use that figure to their advantage and against the building department. It is best to use the assessor's average value against the damage multiplier (see Chapter 3).

22. Find out your involvement in the demolition and structure disposal process to avoid conflicts and unrecorded documentation requirements.

23. Portable kiosks/displays can be placed in damaged neighborhoods to quickly inform residents.

24. Do not stop unpermitted roof repairs, find a different method to address this issue.

25. If entry passes are necessary to pass through National Guard stations have someone obtain them in bulk for inspectors. In the past damage assessment inspections have been delayed when each inspector has had to wait for hours to obtain a pass.

26. Beware that some insurance adjusters have used placards to their advantage. You may be requested to reinspect a structure you initially placarded as 'unaffected'.

27. Inform property owners not to commit to contracts or tear down a structure until insurance issues have been addressed.

28. Project an image as a helper and not an impediment to the recovery process.

29. Obtain qualified permit technicians to organize and assist in the permitting process to avoid delays, mistakes, and confusion.

30. Simplify the permit fee schedule for common repairs such as reroofs and residing. Use flat rates and avoid formulas.

31. As many as four out of five construction permits (vs. reroof/siding) will require input/assistance by a building inspector. Have staff in office able to perform plan reviews.

32. Arranging for inspection assistance by email is less likely to tie up valuable phone lines.

33. Unless a severely damaged structure is in danger of collapse, requiring its demolition may not be necessary. Insurance adjusters often classify these as not worth repairing (costing more to repair than rebuild). This avoids negative publicity and still results in the building's removal.

34. A big part of your time will be spent answering questions such as: what do the placards mean, have you condemned the homes with red tags, how and what do I need to do to move back into my home. Handouts are valuable time savers.

35. Emphasize patience, tolerance and compassion to all staff members repeatedly. As busy and difficult as the work is, it's much worse on the homeowner and family.

CHAPTER 13

BUILDING OFFICIAL SUPPORT NETWORK

When a community is hit by a natural disaster which overwhelms the capabilities of the local building inspection department, often other jurisdictions send building inspectors to help during the damage assessment phase. Traditionally this has been a voluntary effort with building officials contacting the local jurisdiction to offer assistance (after receiving approval from their supervisor). There has never been an official, formal coordination of this support, possibly because this voluntary effort has worked well in the past.

The Disaster Mitigation Committee was formed, in part, to help support building officials in the event of a natural disaster. This support effort is not intended to change the present voluntary method of assistance, but rather, to further aide the building official by increasing the amount of information available so that more informed decisions can be made quickly and the public served better.

B.O./B.O. Support - Past Years.

In years past when a community was damaged and in need of damage assessment inspection assistance, the local building official (or local authority) typically would call other local chapters and building officials he/she knew and ask for volunteer assistance. Occasionally another building official from another jurisdiction would volunteer to help make these calls and possibly coordinate the effort. Some assisting inspectors might stay for a day, some for a half-day and some for a week.

Once each of the damaged buildings had had been inspected (a process that typically takes 3-10 days), the volunteer assistance would end, however, at this point the workload would not. The local building official would then have to decide if additional office/field support would be hired for the recovery stage. Finding qualified help, on short notice, has typically proven difficult, but necessary.

B.O./B.O. Support - Present.

For the most part, building official support efforts remain voluntary. One change is the recent placement of Building Codes and Standards Division Regional Representatives. These representatives will be more familiar with code enforcement conditions in affected outstate areas and are available to help facilitate and coordinate response efforts by local code enforcement agencies. While not necessarily performing inspections themselves, acting in a coordinator or facilitator role can help eliminate some of the confusion that is typical in any emergency.

B.O./B.O. Support - Proposed Efforts.

The Disaster Mitigation Committee will be pursuing the following additional support efforts in an attempt to help provide informational assistance to affected building officials during an emergency. This effort does not include field assistance, but rather, the intention is to offer assistance by making available information not readily available to the local building official. Information that can help the building official be more effective assisting his/her community.

These future efforts to include:

- Maintain a list of building officials who have experienced natural disasters first hand, the size of the building department and the scope of the natural disaster event. The idea is that a building official experiencing a natural disaster can contact another building official who has experienced a similar event. Contacting someone whom in the past has experienced what you are now experiencing can provide very valuable insight and advice.

- Provide educational opportunities highlighting the building department's role in a natural disaster event.

    - See Chapter 14 - Education

- Meet with building department personnel, following disaster events, to acquire information and insight for periodically updating the Disaster Preparedness Manual.

- Create a video for future disaster response efforts which can be used as an orientation tape for assisting inspectors. Issues to cover include how to perform a damage assessment inspection, documentation, assisting the public, etc.

- Create more of a standardized response format to improve the effectiveness of building departments during an emergency. Including standardized procedures and forms so assisting staff can integrate more quickly and smoothly.

CHAPTER 14

EDUCATIONAL OPPORTUNITIES

Education for the building official on the subject of natural disasters is available, however, it typically has not been of the first hand/in the field variety. Most education on the subject has focused on a higher level, centered on the interaction and coordination of government entities and on assistance programs available.

Listed below are existing educational opportunities of various types now available, and, proposed educational opportunities which will attempt to focus more on the building inspector and official role. Also, it should be noted that the best teacher is experience. When neighboring communities do suffer through a natural disaster, building officials may wish to offer personnel assistance (rotating an entire staff) as a method of providing staff training.

Current educational opportunities (to be updated periodically):

- The Department of Public Safety will provide speakers to groups on the subject of natural disaster events - emphasizing the Division of Homeland Security Emergency Management (HSEM) role and a "big picture" perspective that helps put the roles and responsibilities of various agencies in perspective. Contact the Division of Emergency Management at 651-296-0481 or http://www.hsem.state.mn.us.

    - Homeland Security Emergency Management - Minnesota Incident Management System The Minnesota Incident Management System (MIMS) is designed to be in use from the time an incident first occurs until the requirements for management no longer exists. “Incident Commander” is a title which can apply equally to any responding organization or to any one of its members representing any level of management, depending upon the situation. The structure of the MIMS can be established and expanded depending upon the changing conditions of the incident. It is staffed and operated by qualified personnel form any responding agency and may involve personnel from a variety of agencies. **For more information or training go to the Homeland Security and Emergency Management Website: www.hsem.state.mn.us Or contact Suzanne Donnell at sdonnell@mail1.dps.state.mn.us**

- ICC produces the Disaster Mitigation (booklet/study) Guide. Topics include disaster preparation, response, recovery and mitigation. Available from ICC – www.iccsafe.org.

- The University of Wisconsin offers a distance learning disaster/emergency management training program through the Disaster Management Center (UW-DMC). Self-study modules provide text, video, and computer-based media. Traditional on-site training seminars and workshops is also provided for specific events and organization. http://www.dmc.engr.wisc.edu/ or 608-262-5441.

- The Federal Emergency Management Agency's Emergency Management Institute (EMI) provides on-site training at the National Emergency Training Center (NETC) in Emmitsburg, Maryland as well as off-site classes around the country and self-study courses. E.M.I. offers courses on all aspects of Emergency Management. Contact E.M.I. at 301-447-1000 or 800-238-3358.

- The Emergency Education Network (EENET) broadcasts programs on cable each Wednesday at 1:00 p.m.(Central Time). Topics include disaster resistant homes. To obtain a schedule contact Emergency Education Network at 800-500-5164 satilite receive dishes needed.

- Hennepin Technical College offers classes on emergency management and offers an advanced technical certificate. For information contact Hennepin Technical College at 952-995-1300 or www.hennepintech.edu. As of this printing, these courses were offered at the Hopkins Technical Center.

- The Minnesota State College and University system offers an Associates of Applied Science degree in Emergency Management (64 credits).

- Speakers are available from the Disaster Mitigation Committee for chapter meetings to review the use of the manual and to answer questions.

- FEMA website has an extensive selection of program and resource materials including an extensive electronic library – http:// www.fema.gov.

DISASTER PREPAREDNESS MANUAL
APPENDIX

Disaster Team Organization Resources
- **3-page Public Informational Handout**
- **Minnesota State Contractor License Law**
- **Building Department Organizational Chart**
- **Deputizing Authorization Form**
- **Local Identification Cards**
- **Assisting Inspection Staff Sign-In**

Disaster Forms
- **Levels of Disaster Damage Descriptions**
- **Individual Structure Damage Assessment Report**
- **Individual Structure Damage Assessment Report** (sample filled in)
- **Area Damage Log**
- **Guidelines for Demolition of a Structure**
- **Demolition Completion Report**
- **Placards**
  - **HABITABLE Unaffected – No Damage Observed (blue)**
  - **HABITABLE Repairs Required (green)**
  - **UNINHABITABLE Limited Entry Enter at Your Own Risk (yellow)**
  - **UNSAFE STRUCTURE KEEP OUT (orange)**
  - **DANGEROUS KEEP OUT This Structure is UNINHABITABLE (red)**
  - **SORRY WE MISSED YOU Contact Us (white)**
  - **APPROVED TO CONNECT (white)**

Assistance Resources:
- **Disaster Assistance letter from BCSD**
- **Volunteer Form**
- **Regional Representatives**
- **FEMA Resource Information**
- **State Resource information from:**
  - **Department of Health**
  - **Pollution Control Agency**
  - **Department of Natural Resources**
- **Resources from the State All Hazard Mitigation Plan**

Map of Tornadoes in Minnesota by County 1950 – 2002

City of _____
PUBLIC INFORMATION HANDOUT
Date _____

This handout is intended to inform property owners of what your building department will be doing to help make damaged homes and businesses functional again.

Damage assessment inspections:

- The building department will be sending out inspectors to inspect each home/structure suspected to have been damaged during the recent event.
- The purpose of these inspections is to identify which homes and businesses are safe to continue to occupy and to identify those structures which are unsafe. Inspectors will use a standard damage assessment inspection report form to identify the degree of damage to each structure. A copy of the report will be left at the building. The inspectors will also be 'placarding' each damaged structure to identify its occupancy worthiness. 'Placards' identify occupancy restrictions for the protection of the public and are posted on the front of each inspected building. It is anticipated all structures will be inspected by _____.
- If utilities (gas, water and electric) are not functional in your home or business and need to be reestablished:
    - If the structure has been placarded as 'uninhabitable' utilities will not be reestablished immediately.
    - If the structure has been placarded as 'habitable' utility companies must gain access to the structure in order to reestablish service. Please contact utility companies directly to coordinate. See phone numbers attached.
    - For reestablishing water/sewer service (if non-functional) please call _____ _____.
- Structure repairs:
    - Closing in a structure to protect it from the elements does not require a building permit. Examples include minor roof or shingle repair, covering a building with a tarp, window/glass repair and garage door repair/replacement.
    - Permanent repairs and/or alterations in conjunction with repairs will require the issuance of a building permit. Examples include:
        - Roof replacement
        - Residing
        - Any structural repairs
        - Drywall replacement
        - Foundation repairs
        - Electrical work
        - Plumbing work
        - Mechanical work
        - Fire sprinkler/alarm work (on commercial buildings)

For questions as to if a permit is required for proposed work, please contact the building department at _____.

How to obtain a permit:

- To obtain a building/mechanical permit an application must be submitted to the building department at City Hall. Some permits can be issued immediately to homeowners and contractors while others may require a plan review. No permit will be issued on a structure until it has received the initial damage assessment inspection and it has been recorded. Permits will be issued 'over the counter' for reroofs, residing, window replacements and other minor repairs. Not issued immediately will be permits for structural repairs, alterations, additions, demolitions, commercial work and other significant work. These will require a plan review – ask the permits clerk for an estimated time frame. There is a fee for most permits to cover inspection services, however, most permit fees are included in insurance company reimbursements.
- Beware - following disaster events the desire for immediate repairs should be tempered by a few precautions so that you do not fall victim to unscrupulous practices or scam artists.
    - Do not sign a contract until you have spoken with your insurance company.
    - Get contracts in writing.
    - Always use licensed contractors.
    - Exorbitant prices and some repairs may not be fully covered by insurance in spite of what some contractors may say. Show your estimate to your insurance agent before you sign a contract.
    - Watch for notifications and postings put out by the building department as frequent informational updates.
    - Obtaining building permits and using licensed contractors will provide the property owner additional protections and, is required by law.

Reoccupying your home/business:

- If your home or business has been placard as 'uninhabitable' it means the structure can no longer be occupied for human habitation. In order for the home/business to be reclassified as 'habitable' the following steps are necessary:
    1. If repairs are not to be made by the property owner, any estimates or bid proposals should first be reviewed by your insurance agent to verify coverage.
    2. Obtain a building permit to repair those items listed on the Damage Assessment Report. Not all items in the report will affect habitability. Ask the building department which items must be repaired to gain occupancy. Note: some repairs, particularly to business properties will require architectural/engineering plans prior to permit issuance.
    3. Complete at least those repairs which affect habitability (if not by the property owner, by a licensed contractor).
    4. Schedule any necessary inspections listed on the permit(s) of the work in progress or completed work.
    5. Once that portion of the work affecting habitability has been approved by the building department, request they issue a conditional or temporary occupancy certificate which allows occupancy of the structure while other repairs are completed.

Miscellaneous:

- For information on inspections, placards, building permits, utility reconnections and other structure related issues please contact the building department at _____. Office hours are _____ Monday through Friday and _____ ___ on the weekends.
- For other assistance issues information is available at _____ or please call the following:

Administration	_____
Public works	_____
Finance	_____
Gas service	_____
Electrical service	_____
Phone service	_____
American Red Cross	_____
Salvation Army	_____
Commerce Department	_____
Other	_____
	_____
	_____
	_____
	_____
	_____

* This form is a sample only – if used, it should be modified to specific circumstances and posted by inspectors when placarding structures.

Minnesota State Contractor License Law

Notice to Homeowners:
Be Sure Your Contractor is Licensed

Know Your Rights

The State of Minnesota recently adopted a statewide "*Contractor and Remodeler License Law*." This law is designed to protect the consumer by requiring that contractors be licensed with the State. Contractors must apply to the State, post a bond, and show proof of insurance and competency. The law gives homeowners reasonable assurance that they are dealing with a reputable, professional contractor, and a place they can call to get general contractor information.

Getting Information on a Contractor

Contractors, with a few exceptions, who contract with a homeowner to perform home construction, remodeling, or repair, must be licensed with the Minnesota Department of Commerce. Homeowners can call the Commerce Department Licensing Division at 1-800-657-3602, 651-296-2488 or visit the web site @ *www.commerce.state.mn.us* to obtain information on a specific contractor. Contractors must display their license number on their advertising and they must make it available to consumers. Building permits cannot be granted to contractors who are not properly licensed by the state.

Exceptions to Being Licensed

State law exempts contractors who have gross annual receipts from the construction business of less than $15,000.00. Also exempt are specialty contractors who perform only one specialty skill. .

Homeowner Rights if a Contractor is Not Licensed

If your contractor is required to be licensed by the State of Minnesota and you find that he/she is not, you may still have recourse under the law. Generally, the law provides that a contractor who is working in violation of the Minnesota State License Law has no lien rights and may not be able to enforce a contact signed with a homeowner. If you find yourself in this situation, you should consult with an attorney to get sound legal advice. You should never knowingly hire someone who is deliberately violating the State License Law.

Working on Your Own Home

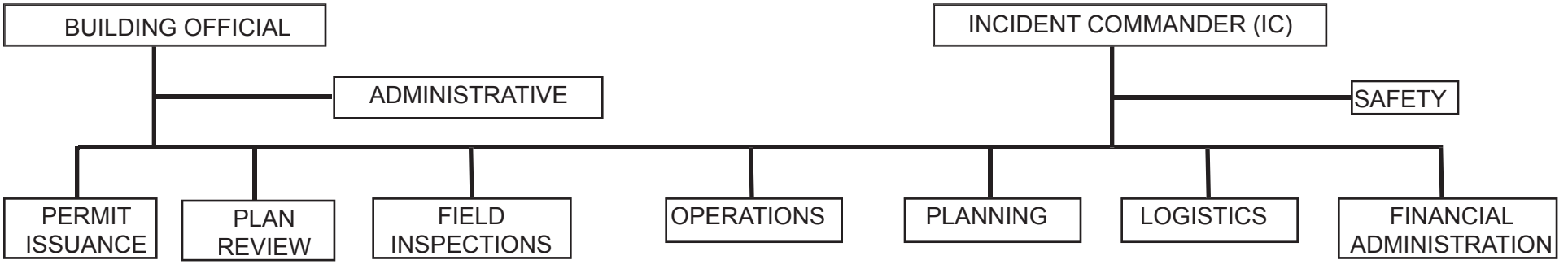
You can obtain permits to do work on your own home. The License Law was written to insure a reasonable degree of protection for you as the consumer of construction services, not to discourage homeowners from doing work on their own property. For your safety, building permits are required for most construction projects.

For more information on State Licensing, contact the
Minnesota Department of Commerce at 800/657-3602 or 651/296-2594

04

SAMPLE

BUILDING DEPARTMENT DISASTER ORGANIZATIONAL CHART



- ▶ DIRECT TACTICAL
- ▶ STRATEGIC GOALS
- ▶ DEVELOP OPERATIONAL PLANS
- ▶ RELEASE RESOURCES THROUGH IC
- ▶ KEEP IC INFORMED
- ▶ SUPERVISE STAGING AREA

- ▶ TRACK PAST, CURRENT & PREDICTED NEEDS
- ▶ MANAGE INFORMATION
- ▶ DEVELOP INFORMATION
- ▶ DEVELOP OPERATIONAL TIME FRAMES
- ▶ PREPARE ALTERNATE STRATEGIES

- ▶ MANAGE SUPPLIES
- ▶ TRACK RESOURCES
- ▶ TRAIN & COORDINATE VOLUNTEER INSPECTORS
- ▶ COMMUNICATIONS PLAN (PRESS, PUBLIC INFO)

- ▶ PROCUREMENT
- ▶ STAFF TRACKING
- ▶ PURCHASING

Authorization for appointment of a Deputy Building Inspector in the Municipality of

_____

(Municipality)

Authority:
The following is authorized by Minnesota Statute Sections 16B.59 through 16B.75, incorporated by reference in Minnesota Rule Part 1300.0110 subp. 2:

1300.0110 DUTIES AND POWERS OF BUILDING OFFICIALS
Subpart 2. Deputies. According to the prescribed procedures of the municipality and with the concurrence of the appointing authority, the building official may designate a deputy building official and related technical officers, inspectors, plan examiners, and other employees. The employees have the powers delegated by the building official.

Purpose:
In order to assist the building official of this community in carrying out the functions of the code enforcement agency including administering the Minnesota State Building Code, the undersigned is hereby appointed as a Deputy Building Inspector.

Responsibilities:
The Deputy Building Inspector shall take all work direction from the Building Official or their designee. The Deputy Building Inspector shall have the authority to perform their assigned duties as granted by the Building Official of this municipality.

Termination:
This appointment may be terminated at any time without advance notice by the Building Official of this municipality.

Appointment:
_____ is hereby appointed as a Deputy Building Inspector for this municipality and agrees to serve at the will of the municipality as stated herein.

Acknowledgements:

_____
Deputy Building Inspector Date

_____
Building Official Date

_____
City Administrator / City Manager Date

LOCAL IDENTIFICATION CARDS

Assisting inspectors should be given local identification cards authorizing their involvement. These should be worn visibly on their clothing. Below is a sample:

AUTHORIZED PASS
Damage Assessment Inspector

Name _____

Address _____

Driver's License No. _____

Bearer has permission to enter restricted area to perform inspections. Including:

_____
(Area, Zone, or Street Location)

Effective:
From _____
Date Hour
To _____
Date Hour

Bearer must wear tag at all times when in restricted area.

_____
Date of Issuance

_____
Issuing Authority

Note: In some disaster events an area may be closed by the National Guard and entry restricted to authorized personnel. To avoid delays getting inspections started, inspectors may need authorization cards similar to these to pass checkpoints. The local building official should obtain numerous passes immediately (for disbursement to assisting staff) to avoid inspectors having to wait in line with other volunteer workers to obtain passes.

ASSISTING INSPECTION STAFF
DAILY SIGN-IN AND TIME LOG
MUNICIPALITY: ____

NAME	TITLE	REPRESENTING
CELL PHONE	WORK PHONE	HOME PHONE
IN CASE OF EMERGENCY CONTACT	PHONE	RELATIONSHIP

DATE	START CHECK-IN TIME	NOON CHECK-IN TIME	CHECK-OUT TIME
COMMENTS:			

NAME	TITLE	REPRESENTING
CELL PHONE	WORK PHONE	HOME PHONE
IN CASE OF EMERGENCY CONTACT	PHONE	RELATIONSHIP

DATE	START CHECK-IN TIME	NOON CHECK-IN TIME	CHECK-OUT TIME
COMMENTS:			

NAME	TITLE	REPRESENTING
CELL PHONE	WORK PHONE	HOME PHONE
IN CASE OF EMERGENCY CONTACT	PHONE	RELATIONSHIP

DATE	START CHECK-IN TIME	NOON CHECK-IN TIME	CHECK-OUT TIME
COMMENTS:			

FORM MUST BE TURNED IN TO: ____AT THE END OF THE DAY.

∗ This form is a sample only – intended to be modified to specific circumstances.

DAMAGE ASSESSMENT GUIDELINES

When assessing structural damage, it is important to evaluate every structure within the affected area, even if the structure is unaffected. This ensures that isolated undamaged homes are identified and recorded and that the damage assessment is thorough.

EVIDENCE OF DAMAGE

The list below identifies each type of damage according to common observable evidence. This is not a comprehensive list; various kinds of evidence of damage can indicate that a dwelling is destroyed or has sustained major or minor damage.

Unaffected BLUE	No damage observed
Affected, habitable, needs repairs GREEN A structure which received damage, but it useable for its intended purpose.	• Structure may have intermittent shingle damage, broken windows, loose, missing, or damaged siding. • Water damage - ➢ single/multi-family: less than 1 foot in basement, minor access problem.
Moderate damage, uninhabitable YELLOW A structure which received such damage that it is no longer usable for its basic purpose, but can easily be repaired and made useable in a short time.	• Structure may have one wall or section of roof damaged, missing windows, doors, or shingles that allow water penetration. • Structure may have broken waste lines, spilled fuel oil, etc. • Properties without life safety provisions (exiting obstructions, electricity, sprinklers, water, HVAC, etc.) • Water damage - ➢ single/multi family: less than 1 foot on first floor; no basement, or 1-8 feet in basement. ➢ Mobile/manufactured home: utilities flooded, piers shifted/washed out.
Major damage, uninhabitable ORANGE Unsafe structure, keep out Structure has received substantial damage and will require considerable time to repair, but is economically feasible to repair.	• Not in immediate danger of collapse. • 2+ walls and roof substantially damaged. • Portion of roof missing; twisted, bowed, or cracked walls; forceful penetration of the structure by a large object such as a car or tree; foundation damage. • Utilities not functioning, i.e. electricity, gas, water. • Water damage - ➢ single/multi family: 1 foot or more on first floor; structural damage; collapsed basement walls. ➢ Mobile/manufactured home: water-soaked bottom board, shifted on piers.
Destroyed, permanently uninhabitable RED Dangerous, keep out	• Structure totally gone, only the foundation remains. • Major section of exterior walls missing or collaped; structure shifted off foundation. • Repair not technically or economically feasible. • Utilities not functioning, i.e. electricity, gas, water. • Water damage - ➢ single/multi family: not economical to repair; home pushed off its foundation. ➢ Mobile/manufactured home: water above floor level or unit off foundation.
Sorry we missed you WHITE	Used when interior inspection is necessary, but access is not achieved.

Many inspectors are concerned about their ability to make judgments about damage categories. Such workers should be advised to: 1) refer frequently to stated guidelines; 2) be consistent in assessments; 3) choose the more serious damage category in the structure appears to border between two categories; 4) always supplement their evaluation with comments, and 5) trust their judgment.

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DAMAGE REPORT
(Initial Damage Assessment Only)

SITE ADDRESS / DESCRIPTION _____

_____ **P.I.N.** _____

OWNER/OCCUPANT _____

OWNER/OCCUPANT ON-SITE? ❑ YES ❑ NO PHONE _____

INSURED: ❑ YES ❑ NO ❑ UNKNOWN **STRUCTURAL EVALUATION REQUIRED:** ❑ YES ❑ NO

TYPE OF BUILDING: ❑ APARTMENT ❑ DWELLING ❑ MANUFACTURED HOME ❑ SHED

❑ ATTACHED GARAGE ❑ DETACHED GARAGE ❑ COMMERICAL ❑ INDUSTRIAL

❑ OTHER: _____

SPECIFIED ITEMS: ❑ Inspected Interior and Exterior ❑ Inspected Exterior Only ❑ Interior Inspection Not Requuired

EXTERIOR:	APPEARS	UNAFFECTED	REPAIR	REPLACE
ROOFING				
ROOF STRUCTURE				
CHIMNEY				
SIDING & TRIM				
WALL STRUCTURE				
WINDOWS				
DOORS				

INTERIOR:	APPEARS	UNAFFECTED	REPAIR	REPLACE
CEILING STRUCTURE				
INTERIOR				
STAIRWAYS				
FLOOR SYSTEM				
BASEMENT				
FOUNDATION				
ATTIC				

UTILITIES:	APPEARS	UNAFFECTED	REPAIR	REPLACE
PLUMBING				
HEATING SYSTEM				
WATER HEATER				
GAS SERVICE				
GAS PIPING				
WIRING				
ELECTRIC SERVICE				
WATER SERVICE				
SPRINKLER SYSTEM				
ELEVATOR				

Barricades may be needed: _____

Comments: _____

PLACARDED FOR HABITABILITY

Blue ❑ Unaffected - No Damage Observed
Green ❑ Habitable - Repairs Required
Yellow ❑ Uninhabitable - Limited Entry
Orange ❑ Unsafe Structure - Keep Out
Red ❑ Dangerous Keep Out - Uninhabitable
White ❑ Sorry - We Missed You, Contact Us

INSPECTOR _____

DATE _____

PICTURES TAKEN: _____

MARKET VALUE $ _____ ESTIMATED LOSS $ _____ SIGNATURE: _____ DATE: _____

SAMPLE

DAMAGE REPORT

(Initial Damage Assessment Only)

SITE ADDRESS / DESCRIPTION 121 MUNSON AVE.

P.I.N. _____

OWNER/OCCUPANT SCHOEPPNER, DICK + JANE

OWNER/OCCUPANT ON-SITE? ☒ YES ☐ NO PHONE 333 - 3300

INSURED: ☐ YES ☐ NO ☒ UNKNOWN STRUCTURAL EVALUATION REQUIRED: ☐ YES ☒ NO

TYPE OF BUILDING: ☐ APARTMENT ☒ DWELLING ☐ MANUFACTURED HOME ☐ SHED

☒ ATTACHED GARAGE ☐ DETACHED GARAGE ☐ COMMERICAL ☐ INDUSTRIAL

☐ OTHER: _____

SPECIFIED ITEMS: ☐ Inspected Interior and Exterior ☐ Inspected Exterior Only ☐ Interior Inspection Not Requuired

EXTERIOR:	APPEARS	UNAFFECTED	REPAIR	REPLACE
ROOFING			X	
ROOF STRUCTURE			X	
CHIMNEY			X	
SIDING & TRIM			X	
WALL STRUCTURE	X			
WINDOWS			X	
DOORS	X			

INTERIOR:	APPEARS	UNAFFECTED	REPAIR	REPLACE
CEILING STRUCTURE	X			
INTERIOR	X			
STAIRWAYS	X			
FLOOR SYSTEM	X			
BASEMENT	X			
FOUNDATION	X			
ATTIC			X	

UTILITIES:	APPEARS	UNAFFECTED	REPAIR	REPLACE
PLUMBING	X			
HEATING SYSTEM			X	
WATER HEATER			X	
GAS SERVICE	X			
GAS PIPING	X			
WIRING	X			
ELECTRIC SERVICE			X	
WATER SERVICE	X			
SPRINKLER SYSTEM	—	—	—	—
ELEVATOR	—	—	—	—

Barricades may be needed: N/A

Comments: NORTH END OF ROOF DAMAGED, SHEATHING, SHINGLES AND ATTIC INSULATION DAMAGED. FOUR WINDOWS BROKEN, FLUES FOR W/HEATER AND FURNACE DISLODGED. ELECTRIC SERVICE MAST DAMAGED.

PLACARDED FOR HABITABILITY

Blue ☐ Unaffected - No Damage Observed
Green ☐ Habitable - Repairs Required
Yellow ☒ Uninhabitable - Limited Entry
Orange ☐ Unsafe Structure - Keep Out
Red ☐ Dangerous Keep Out - Uninhabitable
White ☐ Sorry - We Missed You, Contact Us

INSPECTOR WHITE, DEAN

DATE 3/12/04

PICTURES TAKEN: TWO

MARKET VALUE $ _____ ESTIMATED LOSS $ _____ SIGNATURE: _____ DATE: _____

SAMPLE CITY - STORM OF THE YEAR

Initial Damage Assessment

NO.	STREET	ADDRESS	PLACARD	NAME	PHONE	COMMENTS	GARAGE	INSURED	STRUCTURAL EVALUATION REQUESTED	TYPE OF BUILDING

Guidelines for Disposal of Private Property Pending Demolition of a Structure

MPCA/City of _____

- Demolition permits **must** be obtained from city hall prior to removal of buildings.
- White goods or household appliances should be removed and kept separate at the curb.
- Food waste and other garbage must be removed prior to demolition.
- Other garbage, food , paper, clothing, dishes, TV's, radios, toys, plastics, etc. should be removed and placed in dumpsters or roll-off containers when available (these will be located at each intersection).
- Household hazardous waste includes thermostats, cleaners, paints, poisons, fuels, lawn and garden chemicals, batteries, smoke detectors, etc. These materials must be placed in white plastic pails marked "HHW" and left at the curb.
- Trees and brush should be kept separate and left at the curb.

Structures that can be entered safely must be inspected by a city building inspector prior to demolition!

* This form is a sample only – intended to be modified to specific circumstances following consultation with jurisdiction's Emergency Management Coordinator**.**

DEMOLITION COMPLETION REPORT

Date Demo Performed: _____

Subcontractor: _____

Begin Time: _____ **Completion Time:** _____ **Total Time:** _____

Truck Information:

Truck #: _____ Driver: _____

Load Size: _____Total Loads: _____

Truck #: _____ Driver: _____

Load Size: _____Total Loads: _____

Truck #: _____ Driver: _____

Load Size: _____Total Loads: _____

Truck #: _____ Driver: _____

Load Size: _____Total Loads: _____

TOTAL LOADS FOR SITE: _____

Comments/Remarks: _____

_____

_____

_____

_____ _____

Signature **Date**

Building Department

_____

JURISDICTION

_____

PHONE

Unaffected

NO DAMAGE OBSERVERED

THIS STRUCTURE IS

HABITABLE

ADDRESS_____

INSPECTOR_____ **DATE**_____

BUILDING OCCUPANCY CLASS AND DESCRIPTION _____

_____

CONTACT BUILDING DEPARTMENT BEFORE PROCEEDING WITH ANY WORK
(SEE INSPECTION REPORT)

DO NOT REMOVE THIS PLACARD UNTIL AUTHORIZED BY GOVERNING AUTHORITY

BLUE

Building Department

_____

JURISDICTION

_____

PHONE

THIS STRUCTURE IS

HABITABLE

REPAIRS REQUIRED

ADDRESS_____

INSPECTOR_____ **DATE**_____

BUILDING OCCUPANCY CLASS AND DESCRIPTION _____

_____

CONTACT BUILDING DEPARTMENT BEFORE PROCEEDING WITH ANY WORK
(SEE INSPECTION REPORT)

DO NOT REMOVE THIS PLACARD UNTIL AUTHORIZED BY GOVERNING AUTHORITY

GREEN

Building Department

_____

JURISDICTION

_____

PHONE

LIMITED ENTRY

ENTER AT YOUR OWN RISK
THIS STRUCTURE IS

UNINHABITABLE

ADDRESS_____

INSPECTOR_____ **DATE**_____

BUILDING OCCUPANCY CLASS AND DESCRIPTION _____

_____

CONTACT BUILDING DEPARTMENT BEFORE PROCEEDING WITH ANY WORK
(SEE INSPECTION REPORT)

DO NOT REMOVE THIS PLACARD UNTIL AUTHORIZED BY GOVERNING AUTHORITY

YELLOW

Building Department

_____

JURISDICTION

_____

PHONE

UNSAFE STRUCTURE KEEP OUT

ADDRESS_____

INSPECTOR_____ **DATE**_____

BUILDING OCCUPANCY CLASS AND DESCRIPTION _____

_____

CONTACT BUILDING DEPARTMENT BEFORE PROCEEDING WITH ANY WORK (SEE INSPECTION REPORT)

DO NOT REMOVE THIS PLACARD UNTIL AUTHORIZED BY GOVERNING AUTHORITY

ORANGE

Building Department

_____

JURISDICTION

_____

PHONE

DANGEROUS
KEEP OUT

THIS STRUCTURE IS

UNINHABITABLE

ADDRESS_____

INSPECTOR_____ **DATE**_____

BUILDING OCCUPANCY CLASS AND DESCRIPTION _____

_____

CONTACT BUILDING DEPARTMENT BEFORE PROCEEDING WITH ANY WORK (SEE INSPECTION REPORT)

DO NOT REMOVE THIS PLACARD UNTIL AUTHORIZED BY GOVERNING AUTHORITY

RED

Building Department

_____

JURISDICTION

_____

PHONE

SORRY WE MISSED YOU

A damage assessment inspection is required – including the structure's interior. Please contact the Building Department to arrange for an inspection.

ADDRESS_____

INSPECTOR_____ **DATE**_____

BUILDING OCCUPANCY CLASS AND DESCRIPTION _____

_____

CONTACT BUILDING DEPARTMENT BEFORE PROCEEDING WITH ANY WORK (SEE INSPECTION REPORT)

DO NOT REMOVE THIS PLACARD UNTIL AUTHORIZED BY GOVERNING AUTHORITY

WHITE

Building Department

_____

JURISDICTION

_____

PHONE

APPROVED TO CONNECT

Water ☐ No ☐Yes By:_____Date:_____

Electric ☐ No ☐Yes By:_____Date:_____

Gas ☐ No ☐Yes By:_____Date:_____

ADDRESS_____

NOTES_____

_____

_____

MEMORANDUM

DATE: January 20, 2004

TO: All Building Officials and Interested Parties

FROM: Thomas R. Joachim
State Building Official

SUBJECT: **Disaster Assistance**

In the 2003 legislative session Minnesota Statutes section 16B.61 subd.1a was amended, in part to include the following language: "The commissioner may direct the state building official to assist a community that has been affected by a natural disaster with building evaluation and other activities related to building codes".

The Division of Building Codes and Standards (BCSD) worked cooperatively with the North Star Chapter of ICBO to develop a disaster preparedness manual. The manual is available on the BCSD website. Additionally a regional directory of code officials willing to provide volunteer assistance is maintained through the cooperation of the local building official chapters of the International Code Council (ICC). Volunteer structural engineers from the Minnesota Structural Engineering Emergency Response organization are also available. The division has experienced staff available to assist post-disaster assessment and recovery.

Material resources available include the disaster preparedness manual, damage report forms for individual structures, five categories of placards, volunteer deputization forms, time sheets and miscellaneous inspection and office supplies.

If you have any questions or need additional information contact Jim Muyres, Building Code Representative at 651.205.4703 or 507.931.7500.

Building Codes and Standards Division
408 Metro Square Building
121 7th Place East
Saint Paul, MN 55101
651.296.4639 Fax: 651.297.1973 TTY: 651.627.352
www.buildingcodes.admin.state.mn.us

Admin Minnesota
DEPARTMENT OF ADMINISTRATION

State of Minnesota
Building Codes and Standards Division
www.buildingcodes.admin.state.mn.us

Disaster Assistance Volunteer Form

The purpose of this form is to expedite volunteer inspection assistance available following a disaster.
Note: Submittal of this document does not obligate anyone to participate if contacted.

THE INDIVIDUALS LISTED BELOW HAVE BEEN AUTHORIZED TO REPRESENT:

Name of Organization/Company:____

Organization/Company Main Phone: ____

Submitted by: (print name and title) ____

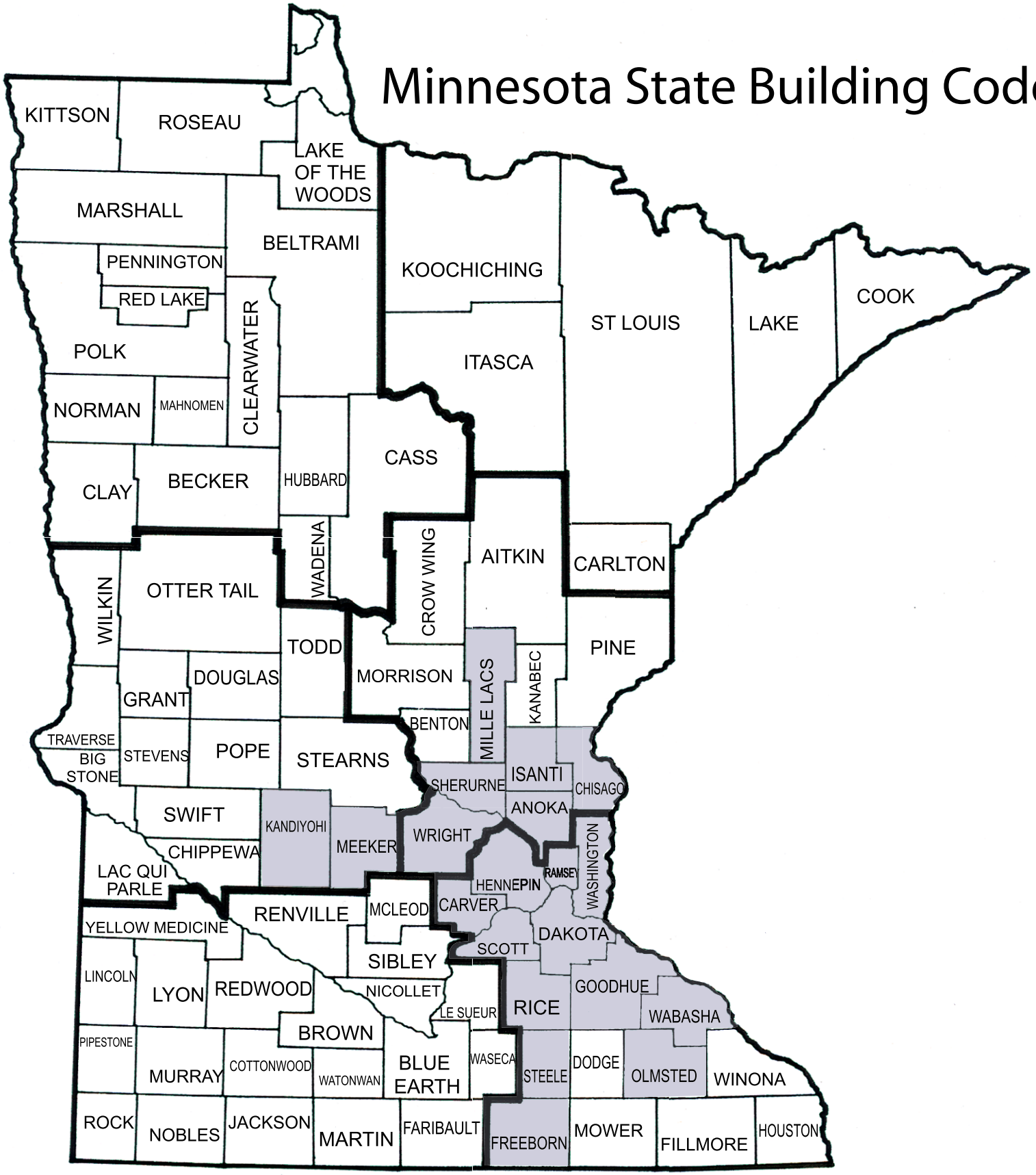
Signature: ____________________________ Phone: __________________ Email: _______________________

The organization/company is responsible for notifiying each individual included on this list and providing appropriate information regarding their organization authorization policies and procedures. Please include this information in your Disaster Plan. Remember - the best way to prepare and train for a disaster is to assist with the aftermath of a disaster in another municipality.

NAME and EMAIL ADDRESS PLEASE PRINT CLEARLY	TELEPHONE WORK	TELEPHONE HOME (OPTIONAL)	TELEPHONE MOBILE	AVAILABLE FOR THESE REGIONS (SEE MAP): (CIRLCE ALL THAT APPLY)	ELECT	PLUMB	HVAC	BLDG	CLERICAL
				1 2 3 4 5 6 ALL Building Official No._________	❑	❑	❑	❑	❑
				1 2 3 4 5 6 ALL Building Official No._________	❑	❑	❑	❑	❑
				1 2 3 4 5 6 ALL Building Official No._________	❑	❑	❑	❑	❑
				1 2 3 4 5 6 ALL Building Official No._________	❑	❑	❑	❑	❑
				1 2 3 4 5 6 ALL Building Official No._________	❑	❑	❑	❑	❑
				1 2 3 4 5 6 ALL Building Official No._________	❑	❑	❑	❑	❑

MAIL TO: BUILDING CODES & STANDARDS, Attn: Code Admin, 408 Metro Square Bldg, 121 East 7TH Place, St Paul, MN 55101-2181 GI019

Minnesota State Building Code



The code is administered throughout these counties.

In other counties the code is administered by specific cities and townships.

Minnesota Totals	YES	NO
Cities - 855	405	450
Townships - 1791	253	1538
Counties - 87	20	67

4-05

MINNESOTA RESOURCES:

Roger Axel
Chairman, Association of Minnesota Building Officials (AMB0) www.ambo.com
Building Official, City of New Hope
4401 Xylon Avenue North
e-mail: raxel@ci.new-hope.mn.us
763-931-5100

Steve Carson
Southern MN Building & Fire Officials contact
City of Winona
207 Lafayette St., Winona, MN 55987
E-mail: scarson@cityhall.luminet.net
507-457-8231

Barry Greive Southwest Chapter contact
City of Hutchinson
111 Hassan St. S.E., Hutchinson, MN 55350
E-mail: Bgrieve@ci.hutchinson.mn.us
320-234-4220

Marty Pavela
Arrowhead Chapter contact
Town of Rice Lake
4107 West Beyer Road. Duluth, MN 55803
E-mail: office@ricelaketownshipmn.org
218-721-5001

Ryan Whiting
Northwest Chapter contact
City of Grand Rapids
420 N. Pokegama Ave., Grand Rapids, MN 55744
E-mail: rwhiting@ci.grand-rapids.mn.us
218-326-7600

Terry Zajac
10,000 Lakes Chapter contact http://www.10klakes.org/
City of Elk River
13065 Orono Pkwy, Elk River, MN 5533
E-mail: tzajac@ci.elk-river.mn.us
763-635-1060

FEMA INFO for the

Minnesota Building Official Disaster Preparedness Manual

Third Edition- Revised 2004

FEDERAL EMERGENCY MANAGEMENT (FEMA)

Disaster Process and Disaster Aid Programs
(The Robert T. Stafford *Disaster Relief and Emergency Assistance Act***, Public Law 93-288)**
http://www.fema.gov/rrr/

Response and Recovery

First **Response** to a disaster is the job of local government's emergency services with help from nearby municipalities, the state and volunteer agencies. In a catastrophic disaster, and if the governor requests, federal resources can be mobilized through the Federal Emergency Management Agency (FEMA) for search and rescue, electrical power, food, water, shelter and other basic human needs.

It is the long-term **Recovery** phase of disaster which places the most severe financial strain on a local or state government. Damage to public facilities and infrastructure, often not insured, can overwhelm even a large city.

A governor's request for a major disaster declaration could mean an infusion of federal funds, but the governor must also commit significant state funds and resources for recovery efforts.

A Major Disaster could result from a hurricane, earthquake, flood, tornado or major fire which the President determines warrants supplemental federal aid. The event must be clearly more than state or local governments can handle alone. If declared, funding comes from the President's Disaster Relief Fund, which is managed by FEMA, and disaster aid programs of other participating federal agencies.

A Presidential Major Disaster Declaration puts into motion long-term federal recovery programs, some of which are matched by state programs, and designed to help disaster victims, businesses and public entities.

An Emergency Declaration is more limited in scope and without the long-term federal recovery programs of a Major Disaster Declaration. Generally, federal assistance and funding are provided to meet a specific emergency need or to help prevent a major disaster from occurring.

The Major Disaster Process

A Major Disaster Declaration usually follows these steps:

- **Local Government Responds**, supplemented by neighboring communities and volunteer agencies. If overwhelmed, turn to the state for assistance;
- **The State Responds** with state resources, such as the National Guard and state agencies;
- **Damage Assessment** by local, state, federal, and volunteer organizations determines losses and recovery needs;
- **A Major Disaster Declaratio**n is requested by the governor, based on the damage assessment, and an agreement to commit state funds and resources to the long-term recovery;
- **FEMA Evaluates** the request and recommends action to the White House based on the disaster, the local community and the state's ability to recover;
- **The President approves** the request or FEMA informs the governor it has been denied. This decision process could take a few hours or several weeks depending on the nature of the disaster.

Disaster Aid Programs
There are two major categories of disaster aid:

> **Individual Assistance** - for damage to residences and businesses or personal property losses, and
> **Public Assistance** - for repair of infrastructure, public facilities and debris removal.

Individual Assistance
Immediately after the declaration, disaster workers arrive and set up a central field office to coordinate the recovery effort. A toll-free telephone number is published for use by affected residents and business owners in registering for assistance. Disaster Recovery Centers also are opened where disaster victims can meet with program representatives and obtain information about available aid and the recovery process.
Disaster aid to individuals generally falls into the following categories:

Disaster Housing may be available for up to 18 months, using local resources, for displaced persons whose residences were heavily damaged or destroyed. Funding also can be provided for housing repairs and replacement of damaged items to make homes habitable.

Disaster Grants, are available to help meet other serious disaster related needs and necessary expenses not covered by insurance and other aid programs. These may include replacement of personal property, and transportation, medical, dental and funeral expenses.

Low-Interest Disaster Loans are available after a disaster for homeowners and renters from the U.S. Small Business Administration (SBA) to cover uninsured property losses. Loans may be for repair or replacement of homes, automobiles, clothing or other damaged personal property. Loans are also available to businesses for property loss and economic injury.

Other Disaster Aid Programs include crisis counseling, disaster-related unemployment assistance, legal aid and assistance with income tax, Social Security and Veteran's benefits. Other state or local help may also be available.

Assistance Process -- After the application is taken, the damaged property is inspected to verify the loss. If approved, an applicant will soon receive a check for rental assistance or a grant. Loan applications require more information and approval may take several weeks after application. The deadline for most individual assistance programs is 60 days following the President's major disaster declaration.

Audits are done later to ensure that aid went to only those who were eligible and that disaster aid funds were used only for their intended purposes. These federal program funds cannot duplicate assistance provided by other sources such as insurance.

After a major disaster, FEMA tries to notify all disaster victims about the available aid programs and urge them to apply. The news media are encouraged to visit a Disaster Recovery Center, meet with disaster officials, and help publicize the disaster aid programs and the toll-free teleregistration number.

Public Assistance
Public Assistance is aid to state or local governments to pay part of the costs of rebuilding a community's damaged infrastructure. Generally, public assistance programs pay for 75 per cent of the approved project costs. Public Assistance may include debris removal, emergency protective measures and public services, repair of damaged public property, loans needed by communities for essential government functions and grants for public schools.

Mandatory Purchase Of Flood Insurance Guidelines
Title V of the Riegle Community Development and Regulatory Improvement Act of 1994 (the Reform Act)

substantially amends the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. The Reform Act tightens the mandatory purchase provisions that originated with the Flood Disaster Protection Act of 1973. Specifically, the Act imposes significant new obligations on lenders and their servicers.

Hazard Mitigation
Disaster victims and public entities are encouraged to avoid the life and property risks of future disasters. Examples include the elevation or relocation of chronically flood-damaged homes away from flood hazard areas, retrofitting buildings to make them resistant to earthquakes or strong winds, and adoption and enforcement of adequate codes and standards by local, state and federal government. FEMA encourages and helps fund damage mitigation measures when repairing disaster damaged structures.

Mitigation is the cornerstone of emergency management. It's the ongoing effort to lessen the impact disasters have on people's lives and property through damage prevention and flood insurance. Through measures such as, building safely within the floodplain or removing homes altogether; engineering buildings and infrastructures to withstand earthquakes: and creating and enforcing effective building codes to protect property from floods, hurricanes and other natural hazards, the impact on lives and communities is lessened.

The following flood cleanup information is from the State of Minnesota Department of Health. If you have access to the Internet access, we suggest you use the links below to go to their website, just in case they have added or updated information. We have provided the following information from their website as a resource to use during a disaster when Internet access is not possible.

http://www.health.state.mn.us/divs/eh/emergency/natural/floods/index.html

If this link does not work, it may have changed. Go to their home page:

http://www.health.state.mn.us

Natural Disasters — Floods
Protecting Your Health During A Flood

A few simple precautions can help you avoid possible health risks during a flood. This information answers some of the most important questions about floods and your health.

Is my drinking water safe?

Contaminated drinking water can be a significant health concern during a flood, but it depends on your situation.

If you use a community water supply:
If you use "city water," the risk of contamination is very low. City wells are generally well protected from flood water. All community water systems are also carefully monitored, by the water supply operator and the state. If your water supply does become contaminated, you will be notified promptly.

If you use a private well
You should assume your private well is contaminated if the well casing was submerged or the flood water came within 50 feet of the well. Water from the well should not be used for drinking or cooking until the well and distribution system have been flushed out, disinfected, and tested for contamination.

- Use bottled water for drinking and cooking until your well is safe to use again.
- For detailed instructions on disinfecting and testing your well, contact the nearest Minnesota Department of Health District Office.

How can I protect my children?

A few simple precautions will help keep your children safe.

- Don't let children play in or near flood water, or in areas that have been recently flooded.
- Wash your child's hands frequently, especially before meals.
- Disinfect toys that may be contaminated, using a solution of two ounces of bleach in one gallon of water.
- Discard any soft toys that may be contaminated with sewage. Young children may put these items into their mouths.

Can contact with sewage or flood water make me sick?

You should always assume that disease organisms may be present in flood water or backed-up sewage. But common sense, combined with basic hygiene, can help you keep the risk low. Skin contact with flood water, by itself, does not pose a health threat unless you have an open wound. The fecal material in sewage contains disease organisms, but it does not pose any risk unless you take it into your mouth. Follow these tips to keep your risks low.

- Always wash your hands thoroughly after working in a contaminated area.
- Always wear rubber gloves and boots to protect your hand and feet.
- Always take a shower after working in a contaminated area.
- Always assume that anything touched by flood water is contaminated.

Do we need to get any shots?

There is usually no increased risk of getting vaccine-preventable diseases - like diphtheria or tetanus - during a flood. However, you should always try to keep your immunizations up-to-date, as a matter of routine. A basic series of immunizations against diphtheria, tetanus, and pertussis is recommended for all children. Adolescents should get a booster for tetanus and diphtheria (Td) at the age of 11 or 12, and adults should get a Td booster every 10 years, throughout life.

If you get a puncture wound, and you haven't had a Td booster within the last five years, ask your doctor whether you should get a tetanus shot.

What about private sewage treatment systems?

If the top of your sewage treatment tank was under water, it must be pumped out - to remove all solids and liquids - before you can run sewage into it again. Pumping stations and drop boxes should also be pumped out.

When can I move back in?

After a flood, there may be structural, electrical, or other hazards in your home. Before moving back in check with local authorities for any special guidance, and survey the property for hazards such as those listed below.

- Check for loose power lines and gas leaks.
- Check for obvious structural damage.
- Turn off the gas and electricity.
- Turn off fuel valves for fuel oil or propane.

What can I keep - and what should I throw away?

The following flood cleanup information is from the State of Minnesota Pollution Control Agency. If you have access to the Internet access, we suggest you use the links below to go to their website, just in case they have added or updated information. We have provided the following information from their website as a resource to use during a disaster when Internet access is not possible.

State of Minnesota Pollution Control Agency:
Three links have been listed here in this manual. However, because links change, if a link isn't working go to: http://www.pca.state.mn.us

A. Information posted at: http://www.pca.state.mn.us/cleanup/index.html

Cleanup
Sometimes accidents happen, and spills occur. Or we learn that commonly used materials are hazardous, such as asbestos. The Minnesota Pollution Control Agency (MPCA) identifies, regulates and cleans up spills, leaks and other hazardous materials that can affect our health and our environment.

Cleanup Topics

- Asbestos Program
- Brownfields
- Contaminated Sediments
- Emergency Response
- Karst in Minnesota
- Landfills/Dumps
- Natural Attentuation of Ground Water
- RCRA Corrective Action
- Remediation Sites
- Storage Tanks:
    - Aboveground Storage Tanks
    - Leaking Underground Storage Tanks
    - Storage Tank Compliance and Assistance Program
    - Underground Storage Tanks
- Superfund Program
- Voluntary Investigation and Cleanup (VIC) Program
- Voluntary Petroleum Investigation and Cleanup (VPIC) Program
- What's in My Neighborhood

General Information

- Publications
- Public Involvement with Cleanup Programs

Regulations

Assistance

B. Information posted at: http://www.pca.state.mn.us/cleanup/ert.html

Emergency Response

The Minnesota Pollution Control Agency's (MPCA) Emergency Response Team (ERT) members are responsible for organizing the MPCA's efforts for oil and hazardous material emergencies. Chemical fires, train derailments, pipeline breaks, tanker truck accidents and petroleum vapors in a sewer are examples of environmental and public health emergencies that the MPCA's ERT members respond to.

To request state assistance or to report a petroleum or hazardous materials spill, contact the Minnesota Duty Officer at:

- 800-422-0798 or
- 651-649-5451

These are 24-hours emergency response phone numbers.

The ERT works closely with local, county, state and federal public safety and environmental officials. On-call staff field over 2,000 spill calls annually for the entire state--24 hours a day, 365 days a year. Internal and external spill prevention and preparedness is an important part of the ERT's strategic plan and is carried-out through: pro-active community planning, fire department training, exercises and drills, and enforcement.

C. Information posted at: http://www.pca.state.mn.us/hot/floods.html

Floods: Minimizing Pollution and Health Risks

For citizens:

- Hazardous household materials
- Preparing heating oil tanks for flooding
- Drinking water well contamination
- Asbestos
- Cleaning up after a flood

For farms and businesses:

- Manure storage facilities
- Underground and above ground storage tanks
- Industrial hazardous wastes
- Wastewater treatment plants

Floods can create environmental problems if precautions are not taken to minimize pollution and health risks. Use the links to the right to get information on what Minnesota residents can do to protect their businesses, homes and families from environmental problems caused by floods

If your home or business is flooded this year, be sure to read the recommendations for cleaning up after a flood.

Homeowners and businesses with other questions about preparing for floods or cleaning up afterward should contact the nearest MPCA office at the numbers listed below.
Detroit Lakes Office….218-847-1519
Duluth Office……218-723-4660
Brainerd Office……218-828-2492
Mankato Office……507-389-5235
Marshall Office……507-537-7146
Rochester Office……...507-285-7343
Saint Paul Office…… ..651-296-6300
Willmar Office……..320-214-3786
Toll-free……1-800-657-3864

Hazardous Household Materials

Homeowners in areas that are likely to flood should move hazardous household materials to a safe area that is likely to remain dry throughout the flooding.
Hazardous household materials include such items as:

- drain cleaner
- furniture stripper
- motor-vehicle oil
- toilet-bowl cleaner
- antifreeze
- pesticides
- fertilizers

Items such as vehicle batteries and propane tanks should also be moved to higher ground because they pose a danger if their contents are released to the environment.
For more information on hazardous household products and wastes, call your county environmental offices or the Minnesota Office of Environmental Assistance at 651-296-3417 or toll free 800-657-3843 (in Minnesota only) and ask for the Household Hazardous Waste Program staff.

Read the "Cleaning up after a flood" section for information on disposing of household chemicals that have been damaged during flooding.
Visit the Minnesota Office of Environmental Assistance household hazardous waste page for more information about chemicals in the home.

Cleaning Up After a Flood

If your home falls victim to flooding this year, here are some recommendations to consider once waters recede and you begin cleanup. Because there may be large volumes of solid waste generated during flooding, the MPCA sometimes arranges for temporary, alternative disposal options. These disposal options differ from those normally available to you. Please read the fact sheet below for more details. Additional information about flood cleanup activities may be available from the MPCA office nearest you.

Basement Cleaning
Ventilate your basement before and during cleaning with chemical solutions, and if oil is present. When basements flood, there is usually some sewer backup as well. Therefore, after the water and/or sewage has been removed, it is important to disinfect the surfaces to eliminate odors and bacteria.
If your basement had oil spilled in it, use a detergent to clean oil off the surfaces. Sheetrock and paneling should be removed and properly disposed at a transfer facility, incinerator or sanitary landfill. Concrete walls, wood supports, ceiling structures, and beams will soak up oil like a sponge. Therefore, those surfaces will need to be sealed with an epoxy paint sealer once they have dried out.

Household Chemicals
If you have chemicals that end up being flooded, keep all damaged household chemicals separate for later disposal. Place them in plastic bags and keep the product label with each bag. Call your County Solid Waste Officer for collection dates. Also, remember to keep chemicals out of reach of children and pets at all times.

Visit the website for additional information regarding:
Asbestos
Oil Cleanup
Oil or Sewage-soaked Debris
Fuel Oil Tanks
Septic Systems
Manure Storage Facilities
Underground and Above Ground Storage Tanks
Industrial hazardous Wastes
Wastewater Treatment Facilities

As a general rule, anything you can't wash and disinfect should be thrown away. Although you may need to use special cleaning methods for items like carpeting and upholstered furniture, it may be possible to salvage them.

What about garbage?

Garbage attracts animals and insects, and rodent activity may increase in flooded areas as these animals seek food and shelter. Don't let garbage pile up. Dispose of all discarded items properly. There will usually be more frequent pick-ups after a flood.

Is my food safe?

Food is generally safe unless it has been in direct contact with flood water, or it hasn't been properly refrigerated, because of power failure. Here are a few simple food safety guidelines.

Clean any canned goods you intend to keep

- Commercially canned foods can be kept if you wash the can first with warm water and detergent, then disinfect the outside of the can, using a solution of two ounces of bleach in one gallon of water. Remove labels when cleaning the cans.

Discard foods that may be contaminated

- Items pre-packed in paper, boxes, glass jars, or other non-waterproof packages that may have been in contact with flood water.
- Frozen food that was thawed, and held at room temperature for more than two hours should be discarded.
- Any items with unusual color or odor.

Keep refrigerated food cold

- If your power goes off, your refrigerator will keep food cool for 4-6 hours if left unopened. Try to keep foods as close to 41° F. as possible.

Keep frozen food from thawing

- If your power goes off, your freezer will keep food frozen for one day if the freezer is half full. Up to two days, if the freezer is full and left unopened.

And always remember -
If in doubt, throw it out!

For questions about this information, please contact the Department of Health, Environmental Health Division:
e-mail address: ehweb@health.state.mn.us or website: www.health.state.mn.us

The following flood cleanup information is from the State of Minnesota Department of Natural Resources: http://www.dnr.state.mn.us/floodsafety/cleanup.html

Flood cleanup

The flood waters have receded and it's time to get things cleaned up and back to normal. The first thing to do is establish your priorities for the required repair work. Your priorities list will generally depend on the seriousness and extent of the damages. Here are some suggested steps you can follow.

1. **Look at the structure of the building.** Check the foundations for settling, cracking or undermining. Look at the walls, floors, doors and windows to determine what repairs are necessary. Before entering the structure, make sure that all electric, gas and oil valves are turned off.
2. **If the basement is flooded, begin pumping the water in stages** -- about 1/3 of the water per day. Make sure that the level of the flood waters is below the level of the basement floor. If not, do not pump the basement all at once because the saturated soil could cause the basement walls to collapse.
3. **Get the electrical system back in operation**. Have the system checked by a qualified electrician. Take your electrical appliances to a serviceman before using.
4. **If the furnace was inundated by flood waters have inspected by qualified serviceperson.** Before operating, the system may need to be cleaned, dried and reconditioned. Make sure the chimney is cleaned of debris before using.
5. **Start up the heating system, if possible.** This can help in the drying process.
6. **Get the water system back in operation.** Clean drains, pipes, etc. Disinfect wells and the water system. A qualified plumber can provide the "how to" and methods to use.
7. **Shovel the mud and silt out before it dries.** Before the walls and floors dry, wash down with a hose, starting at the top of the wall and then working down. Scrub and disinfect walls and floors. Leave windows and doors open to speed up drying. A complete drying may take as long as a few months. Repair walls and floors that have buckled. Make sure that the underlying material is dry before installing new materials.
8. **Throw out all food which has spoiled or has been touched by flood-waters.** Do not refreeze any vegetables, fruits or meats which have thawed completely. If there is any question, throw it away.
9. **Clean and dry all household items which were affected by the flood waters.** This includes all furniture, carpets, clothing, dishes and bedding. Disinfect, if necessary. Treat household items for mildew, if necessary. Before you begin to salvage damaged items, you must decide which pieces are worth restoring. These decisions should be based on:
    - the extent of the damage
    - the cost of the article
    - the sentimental value
    - the cost of restoration

Remember, consider each item individually.

10. **Clean up the yard.** Trim and care for damaged trees and shrubs. Rake and possibly reseed the lawn.

Some basic cleaning supplies and equipment that you may need for home cleanup:
Cleaning supplies:

- low sudsing detergents
- bleaches
- disinfectants
- ammonia
- scouring powder
- rubber gloves

Equipment:

- buckets
- small tools, (crowbar, hammer, screwdriver)
- sponges and wiping cloths
- scrub brush
- broom or shovel
- a mop that is easily squeezed out
- throw away containers for garbage
- water or garden hose

Cleaning and disinfectant products
Mildew-removing products
Other equipment to use with larger jobs may include wheelbarrows, dollies, wash tubs, etc.
Most common household cleaners will do the trick with clean-up. Powder or liquid cleaners are more economical to use than aerosol sprays. Household cleaners help remove the dirt and disinfectants will help stop the growth of disease-causing organisms carried in the floodwaters. All products are not suited for all uses. Remember, read the label for specific directions and precautions. Certain products may be harsh on your skin and may burn your eyes. Protect your hands and eyes with protective gear. Wash your skin immediately if you splash or spill any cleaner on yourself.

The following Table of Contents and List of Web Resources are from the Minnesota State All-Hazard Mitigation Plan. You may access the entire manual at:
http://www.hsem.state.mn.us/uploadedfile/state_mitigation_plan.pdf

Minnesota State All-Hazard Mitigation Plan

October 31, 2003

TABLE OF CONTENTS

B. Capabilities Available from Federal and State Agencies and Related Organizations

1. Federal Agencies

ORGANIZATION	***SITE SUMMARY***	***CONTACT***
Federal Emergency Management Agency (FEMA) (http://www.fema.gov)		
FEMA	General information on hazards, disaster assistance programs, current disasters, etc.	Http://www.fema.gov/
FEMA, National Flood Insurance Program (NFIP)	Detailed information on the National Flood Insurance Program and other mitigation activities.	Http://www.fema.gov/nfip/
FEMA	FEMA extreme heat fact sheet.	Http://www.fema.gov/library/heatf.htm
FEMA	Search on “heat” or “cold” for detailed information.	http://www.fema.gov/
FEMA, Radiological Emergency Preparedness Program (REP)	Summary of the national Radiological Emergency Preparedness Program	http://www.fema.gov/pte/rep
FEMA, U.S. Fire Administration (USFA)	To reduce life and economic loss due to fire and related emergencies, through leadership, advocacy, and coordination.	http://www.usfa.fema.gov/
U.S. Department of Agriculture (USDA) (http://www.usda.gov)		
National Drought Policy Commission	The National Drought Policy Commission was formed in response to the National Drought Policy Act (signed July 16, 1998). This site links to their final report published May 2000.	http://www.fsa.usda.gov/drought/finalreport/accesstoreports.htm
Natural Resources Conservation Service (NRCS)	To provide leadership in a partnership effort to help conserve, improve, and sustain our natural resources and environment.	http://www.nrcs.usda.gov/
Farm Service Agency	Emergency Conservation Program shares the cost of rehabilitating eligible farmlands	http://www.fsa.usda.gov/pas/disaster/ecp.htm

ORGANIZATION	***SITE SUMMARY***	***CONTACT***
	damaged by natural disaster. Provides emergency water assistance during drought.	
U.S. Department of Commerce (DOC) (http://www.doc.gov)		
Economic Development Administration (EDA)	To generate jobs, help retain existing jobs, and stimulate industrial and commercial growth in economically distressed areas of the U.S.	http://www.doc.gov/eda
U.S. Census Bureau	Profile of Minnesota and each Minnesota county.	http://www.census.gov/datamap/www/27.html
National Oceanic and Atmospheric Administration (NOAA)	Provides detailed information on coastal water issues, including the Great Lakes.	http://www.noaa.gov/coasts.html
NOAA, National Climatic Data Center (NCDC)	Current and historical archive of climatic data and information.	http://www.ncdc.noaa.gov/ncdc.html
NOAA, Drought Information Center	NOAA Drought Information Center.	http://www.drought.noaa.gov/
NOAA, National Severe Storms Laboratory	Comprehensive information on severe weather research.	http://www.nssl.noaa.gov/
NOAA, National Weather Service (NWS)	Provides all available weather information including warning updates.	http://www.nws.noaa.gov/
NOAA and USDA	Weekly Weather and Crop Bulletin posting.	http://www.usda.gov/agency/oce/waob/jawf/wwcb.html
U.S. Department of Defense (DOD) (http://www.defenselink.mil/)		
U.S. Coast Guard, National Response Center	Point of contact for reporting all oil, chemical, radiological, biological, and etiological discharges into the environment of the United States.	http://www.nrc.uscg.mil/index.htm
U.S. Coast Guard, National Response Center	Provides technical advice on dealing with weapons of mass destruction.	http://www.nrc.uscg.mil/terrorism.htm
U.S. Army Corps of Engineers (USACE)	Provides information on assistance available for planning, engineering and design of permanent flood control projects, and assistance to communities during flood emergency operations.	http://www.usace.army.mil/

ORGANIZATION	***SITE SUMMARY***	***CONTACT***
Cold Regions Research and Engineering Laboratory (CRREL)	Engineering and technology for use in cold regions.	http://www.crrel.usace.army.mil/
U.S. Department of Energy (DOE) (http://www.energy.gov)		
Federal Energy Regulatory Commission (FERC)	Regulates the transmission of energy sources interstate commerce and oversees environmental matters.	http://www.ferc.gov
U.S. Department of Health and Human Services (HHS) (http://www.hhs.gov)		
Agency for Toxic Substances and Disease Registry	Detailed information on toxic substances and disease.	http://www.atsdr.cdc.gov/
Centers for Disease Control and Prevention – Bioterrorism Preparedness and Response	Provides information about biological agents and other aspects of bioterrorism preparedness and response.	http://www.bt.cdc.gov/
U.S. Department of the Interior (DOI) (http://www.doi.gov)		
U.S. Geologic Survey (USGS)	Excellent source of natural disaster information (earthquakes, drought, floods, etc.).	http://www.usgs.gov/
USGS Programs in Minnesota	USGS activities in Minnesota.	http://mn.water.usgs.gov/stsheet/
National Earthquake Information Center (NEIC)	Up to date information on world seismicity.	http://wwwneic.cr.usgs.gov/
U.S. Department of Justice (DOJ) (http://www.usdoj.gov)		
Federal Bureau of Investigation (FBI)	Programs and initiatives page.	http://www.fbi.gov/programs.htm
Office of Justice Programs, Office for State and Local Domestic Preparedness Support	Assists state and local response agencies throughout the United States prepare for incidents of domestic terrorism.	http://www.ojp.usdoj.gov/osldps

ORGANIZATION	***SITE SUMMARY***	***CONTACT***
U.S. Department of State (DOS) (http://www.state.gov)		
Office of the Coordinator for Counter Terrorism	Coordinates all U.S. Government efforts to improve counterterrorism cooperation with foreign governments. Provides information on terrorism and national security.	http://www.state.gov/www/global/terrorism/index.html
U.S. Department of Transportation (DOT) (http://www.dot.gov)		
Emergency Response Guide (ERG2000)	A guide to aid first responders during the initial response phase of an incident.	http://hazmat.dot.gov/gydebook.htm
Federal Highway Administration (FHWA)	Responsible for improving the quality of the Nation's highway systems and its intermodal connections.	http://www.fhwa.dot.gov
National Transportation Safety Board (NTSB)	Information on transportation safety.	http://www.ntsb.gov/
DOT, Office of Hazardous Material Safety	National safety program for the transportation of hazardous materials by air, rail, highway and water.	http://hazmat.dot.gov/
DOT, Office of Pipeline Safety	Information on pipeline safety and regulations.	http://ops.dot.gov/
U.S. Environmental Protection Agency (EPA) (http://www.epa.gov)		
EPA, Office of Solid Waste and Emergency Response	Provides guidance and direction for solid waste and emergency response programs.	http://www.epa.gov/swerrims/
U.S. Nuclear Regulatory Commission (NRC) (http://www.nrc.gov)		
U.S. Nuclear Regulatory Commission (NRC)	Detailed information on nuclear power plants, nuclear waste, and the national Radiological Emergency Preparedness program.	http://www.nrc.gov/
U.S. Small Business Administration (SBA) (http://www.sba.gov)		
Small Business Administration	Provides training and advocacy for small firms.	http://www.sba.gov/

2. State Agencies

ORGANIZATION	***SITE SUMMARY***	***CONTACT***
Minnesota Board of Animal Health	Information regarding livestock and animal diseases, as well as reporting requirements.	90 West Plato Boulevard West, St. Paul, Minnesota 55107 (651) 296-2942 http://www.bah.state.mn.us/
Minnesota Board of Water and Soil Resources	To assist local governments to manage and conserve water and soil resources.	One Water Street West #200, St. Paul, Minnesota 55107 (651) 296-2942 http://www.bwsr.state.mn.us/
Minnesota Department of Administration	Provides services to government agencies: information technology, facilities and property management, statewide building codes and construction oversight; and local planning assistance, HSEMographic and geographic information systems data and software.	200 Administration Building St. Paul, Minnesota 55155 (651) 296-1424 http://www.admin.state.mn.us/
Minnesota Department of Agriculture	Responsible for the regulation of pesticides, fertilizers, food safety and feed including emergency response, state Superfund authority and financial assistance for agricultural entities.	90 West Plato Boulevard, St. Paul Minnesota 55107 (651) 297-2414 http://www.mda.state.mn.us/
Minnesota Department of Children, Families & Learning	Improve the well being of children through programs that focus on education, community services, and prevention.	1500 West Highway 36, Roseville, Minnesota 55113 (651) 582-8200 http://children.state.mn.us/
Minnesota Department of Commerce	A guide to Minnesota's regulated businesses and industries.	85 7th Place East, Suite 500, St. Paul, Minnesota 55101 (651) 296-6319 http://www.commerce.state.mn.us/
Minnesota Department of Economic Security	Employer and labor market information.	390 N. Robert St., St. Paul, Minnesota 55101 (651) 296-2919 http://www.mnworkforcecenter.org/index.htm

Minnesota Department of Finance	Expedite fiscal management during a state disaster. Assist with funding issues when federal assistance is not provided.	400 Centennial Office Building, 658 Cedar Street, St. Paul, Minnesota 55155 (651) 296-5900 http://www.finance.state.mn.us/

ORGANIZATION	***SITE SUMMARY***	***CONTACT***
Minnesota Department of Health (MDH)	Detailed information on services and current events affecting the citizens of Minnesota.	P.O Box 64975, St. Paul, MN 55164-0975 (651) 215-5800 http://www.health.state.mn.us/
Minnesota Department of Human Services	Provides health care, economic assistance, and other services for those in need.	444 Lafayette Rd. St. Paul, Minnesota 55155 (651) 297-3933 http://www.dhs.state.mn.us/
Minnesota Department of Labor and Industry	Assist with investigations when workers are injured, and detect air contaminants caused by chemical or geological agents, and assessing hazards.	443 Lafayette Rd. North, St. Paul, Minnesota 55155 (651) 296-6107 http://www.doli.state.mn.us/
Minnesota Department of Military Affairs (DMA) -National Guard	Information on the capabilities of the Minnesota National Guard.	20 West 12th St. Veterans Service Building, St. Paul, MN 55155-2098 (651) 282-4662 http://www.dma.state.mn.us/index.htm
Minnesota Department of Natural Resources (DNR)	The conservation of natural systems and the maintenance of biodiversity. Water education information is available on the Division of Waters' Home Page that discusses floodplain management, flood mitigation, drought/water supply, dam safety, flood warning, climatology, and lake and stream gauging.	500 Lafayette Rd., St. Paul, Minnesota 55155 (651) 296-6157 http://www.dnr.state.mn.us/ or http://www.dnr.state.mn.us/waters/index.html
Minnesota Homeland Security and Emergency Management (HSEM)	This site contains information on Emergency Management.	444 Cedar Street, Suite 223 St. Paul, Minnesota 55101 (651) 296-2233 http://www.hsem.state.mn.us//.
Minnesota Department of Public Safety (DPS)	Information on Fire Marshal's Office and Pipeline Safety, State Patrol, Drug Policy and Violence Prevention, Bureau of Criminal Apprehension, Alcohol and Gambling, and highway and traffic safety.	Central Office Town Square 444 Cedar Street, St. Paul, Minnesota 55101 (651) 282-6565 http://www.dps.state.mn.us/
Minnesota Department of Employment and Economic Development	To advance the economic vitality of Minnesota through trade and economic development, including the	500 Metro Square 121 Seventh Place East, St., St. Paul, Minnesota 55101-2146 (651) 297-1291

ORGANIZATION	***SITE SUMMARY***	***CONTACT***
	provision of employer and labor market information.	http://www.deed.state.mn.us/index.html
Minnesota Department of Transportation	Comprehensive transportation issues in Minnesota.	395 John Ireland Boulevard, St. Paul, MN 55155 (651) 296-3000 http://www.dot.state.mn.us/
Minnesota Emergency Medical Services Regulatory Board	Provides leadership for emergency medical care for the people of Minnesota.	2829 University Avenue Southeast, Suite 310, Minneapolis, Minnesota 55414 (612) 627-6000 http://www.emsrb.state.mn.us/
Minnesota Emergency Response Commission	Responsible for coordinating information about hazardous chemicals at state facilities.	444 Cedar St., Suite 223, St. Paul, MN 55101 (651) 297-7372 http://www.erc.state.mn.us/
Minnesota Housing Finance Agency	Provides low- and moderate-income housing and resources.	400 Sibley St., Suite 300, St. Paul MN 55101 (651)296-7608 http://www.mhfa.state.mn.us/
Minnesota Office of Environmental Assistance	Information related to the environment.	520 Lafayette Rd. North, Floor 2, St. Paul, MN (651) 296- 3417 http://www.moea.state.mn.us/
Minnesota Office of the State Archaeologist	Conduct research into the prehistoric and historic archaeology of Minnesota.	Ft. Snelling History Center, St. Paul, Minnesota 55111 (612) 725-2411 http://www.admin.state.mn.us/osa/
Minnesota Pollution Control Agency	Provides pollution control information for Minnesota.	520 Lafayette Rd. St. Paul, MN 55155 (651) 296-6300 http://www.pca.state.mn.us/
Minnesota State Colleges and Universities (MNSCU)	Provide information about Higher education in Minnesota	500 World Trade Center, 30 East 7th St., St. Paul, Minnesota 55101 (651) 296-8012 http://www.mnscu.edu

3. Related Organizations

ORGANIZATION	***SITE SUMMARY***	***CONTACT***
American Red Cross (ARC)	Provide relief to victims of disasters and help people prevent, prepare for, and respond to emergencies.	http://www.redcross.org
American Water Works Association (AWWA)	American Water Works Association information on water conservation.	http://www.awwa.org/asp/default_conservation.asp
AWWA, Water Wiser Organization	Comprehensive listing of water conservation and water related sites.	http://www.waterwiser.org/frameset.cfm?b=5

ORGANIZATION	***SITE SUMMARY***	***CONTACT***
Association of State Dam Safety Officials (ASDSO)	General Information about dams and dam safety in the US.	http://www.damsafety.org/

ORGANIZATION	***SITE SUMMARY***	***CONTACT***
Association of State Floodplain Managers (ASFPM)	Information on floodplain management, flood hazard mitigation, the National Flood Insurance Program, and flood preparedness, warning and recovery.	http://www.floods.org/
Mid-America Earthquake Center (MAE)	One of three national earthquake engineering research centers established by the National Science Foundation.	http://mae.ce.uiuc.edu/
MILNET-Nuclear Weapons Frequently Asked Questions	Good overview on nuclear weapons.	http://www.milnet.com/milnet/nukeweap/
Minnesota Geological Survey (MGS)	The University outreach center for the science and technology of earth resources in Minnesota.	http://www.geo.umn.edu/mgs/
Minnesota Seismicity	Minnesota seismicity information.	http://wwwneic.cr.usgs.gov/neis/states/minnesota/minnesota.html
National Association of Counties (NACo)	NACo is the only nation-wide organization representing county governments.	http://www.naco.org/index.cfm
National Drought Mitigation Center (NDMC)	Information on drought preparation and risk management.	http://enso.unl.edu/ndmc/
National Emergency Management Association (NEMA)	NEMA is the professional association of state, pacific, and Caribbean insular state emergency management directors.	http://www.nemaweb.org/
National Energy Foundation	This is site for kids, parents and teachers, with a focus on water conservation in the home.	http://www.getwise.org/
National Fire Protection Association (NFPA)	Provides scientifically based fire codes and standards, research, training, and education.	http://www.nfpa.org/
National Lightning Safety Institute (NLSI)	Independent, non-profit consulting, education and research organization focusing on lightning safety.	http://www.lightningsafety.com/

ORGANIZATION	***SITE SUMMARY***	***CONTACT***
Natural Hazards Center at the University of Colorado	Clearinghouse for natural hazards information.	http://www.colorado.edu/hazards/
Project Safeside (The Weather Channel & American Red Cross)	The goal of Project Safeside is to raise national awareness of the need to prepare for severe weather.	http://www.weather.com/safeside/
Societal Aspects of Weather-Injury and Damage Statistics	Contains societal impact data for weather related disasters.	http://www.esig.ucar.edu/socasp/stats.html
The Disaster Center	Provides news and information on current disasters, and the emergency management field. Links to each state included.	http://www.disastercenter.com/
The Disaster Research Center (University of Delaware)	Research center for the preparation and mitigation of natural and technological disaster for groups, organizations and communities.	http://www.udel.edu/DRC/
The National Wildland/Urban Interface Fire Protection Program	Site information to help to become a “firewise” individual.	http://firewise.org/
The Terrorism Research Center	The Terrorism Research Center is dedicated to informing the public of the phenomena of terrorism and information warfare.	http://www.terrorism.com/index.shtml
The Texas Agricultural Extension Service and the Texas A&M University System	Links to the 1998 report: Texas Drought Management Strategies, prepared by the Texas Agricultural Extensions Service and the Texas A&M University.	http://agnews.tamu.edu/drought/drghtpak98/
The Tornado Project	Offers tornado books, posters, and videos. Many links.	http://www.tornadoproject.com/
United Nations International Strategy for Disaster Reduction (ISDR)	Increase public awareness of hazard and risk issues for the reduction of disasters in modern societies, motivate public administration policies and measures to reduce risks, and improve access of science and technology for risk reduction in local communities.	http://www.unisdr.org/

ORGANIZATION	***SITE SUMMARY***	***CONTACT***
University of Wisconsin Disaster Management Center	The center's goal is to help improve the emergency management performance of non-governmental organizations, local and national governments, and international organizations, through a comprehensive professional development program in disaster management.	http://epdweb.engr.wisc.edu/dmc/
USA Today Weather	Good overview of current weather and additional weather related data.	http://www.usatoday.com/weather/wfront.htm
Worldwide Disaster Aid and Information	Provides general information regarding relief agencies and available assistance.	http://www.disasterrelief.org/

C. Financial Assistance – By Codes of Federal Domestic Assistance Numbers

TOPIC/CODE	***DESCRIPTION***	***INTERNET ADDRESS***
93.003 Public Health and Social Services Emergency Fund	Funds are available for public health and social service emergencies. Funds are initially appropriated to the Office of the Secretary, but virtually all funding is allocated to HHS agencies for award and use in disaster areas.	http://www.cfda.gov/public/viewprog.asp?progid=1112
93.113 Biological Response to Environmental Health Hazards	To focus on understanding how chemical and physical agents cause pathological changes in molecules, cells, tissues, and organs and become manifested as respiratory disease, neurological, behavioral and developmental abnormalities, cancer, and other disorders.	http://www.cfda.gov/public/viewprog.asp?progid=1136

TOPIC/CODE	***DESCRIPTION***	***INTERNET ADDRESS***
93.114 Applied Toxicological Research and Testing	To develop scientific information about potentially toxic and hazardous chemicals by concentrating on toxicological research, testing and test development, and validation efforts. Specific goals of the program include the determination of the toxicological profiles of chemicals, and the development and validation of existing and emerging methodologies that can be successfully employed for predicting the human response to toxic agents.	http://www.cfda.gov/public/viewprog.asp?progid=1137
93.116 Project Grants and Cooperative Agree-ments for Tuberculosis Control Programs	To assist State and local health agencies in carrying out tuberculosis control activities designed to prevent transmission of infection and disease.	http://www.cfda.gov/public/viewprog.asp?progid=1139
93.127 Emergency Medical Services for Children	To support HSEMonstration projects for the expansion and improvement of emergency medical services for children who need treatment for trauma or critical care. It is expected that maximum distribution of projects among the States will be made and that priority will be given to projects targeted toward populations with special needs, including Native Americans, minorities, and the disabled.	http://www.cfda.gov/public/viewprog.asp?progid=1147

TOPIC/CODE	***DESCRIPTION***	***INTERNET ADDRESS***
93.142 National Institute of Environmental Health Services (NIEHS) Hazardous Waste Worker Health and Safety Training	To provide cooperative agreements and project grant support for the development and administration of model worker health and safety training programs consisting of classroom and practical health and safety training of workers and their supervisors, who are engaged in activities related to hazardous materials, hazardous waste, etc.	http://www.cfda.gov/public/viewprog.asp?progid=1157
93.143 NIEHS Superfund Hazardous Substances-Basic Research and Education	To establish a unique program linking biomedical research with engineering, geoscience, and ecological research. The goals of the program are to establish and support an innovative program of basic research and training consisting of multi-project, interdisciplinary efforts.	http://www.cfda.gov/public/viewprog.asp?progid=1158
93.161 Health Program for Toxic Substances and Disease Registry	To work closely with State, local, and other Federal agencies to reduce or eliminate illness, disability, and death resulting from exposure of the public and workers to toxic substances at spill and waste disposal sites.	http://www.cfda.gov/public/viewprog.asp?progid=1168
93.204 Surveillance of Hazardous Substance Emergency Events	To assist State health departments in developing a State-based surveillance system for monitoring hazardous substance emergency events. This surveillance system will allow the State health department to better understand the public health impact of hazardous substance emergencies by developing, implementing, and evaluating a State-based surveillance system.	http://www.cfda.gov/public/viewprog.asp?progid=1190

TOPIC/CODE	***DESCRIPTION***	***INTERNET ADDRESS***
93.208 Great Lakes Human Health Effects Research	To Build and amplify results from past and on-going research in the Great Lakes basin; develop information, databases and research methodology to provide long-term benefit to human health effects research in the Great Lakes basin	http://www.cfda.gov/public/viewprog.asp?progid=1192
93.268 Immunization Grants	To assist States and communities in establishing and maintaining preventive health service programs to immunize individuals against vaccine-preventable diseases (including measles, rubella, poliomyelitis, diphtheria, pertussis, tetanus, hepatitis B, hepatitis A, varicella, mumps, etc.	http://www.cfda.gov/public/viewprog.asp?progid=1227
93.283 Centers for Disease Control and Prevention (CDC), Investigations and Technical Assistance	To assist State and local health authorities and other health related organizations in controlling communicable diseases, chronic diseases, and other preventable health conditions.	http://www.cfda.gov/public/viewprog.asp?progid=1237
93.944 HIV / Acquired Immunodeficiency Syndrome (AIDS) Surveillance	To continue and strengthen effective HIV and AIDS surveillance programs and to effect, maintain, measure and evaluate the extent of HIV / AIDS incidence and prevalence throughout the United States and its territories.	http://www.cfda.gov/public/viewprog.asp?progid=1381
83.007 Reimbursement for Fire Fighting on Federal Property	To provide that each fire service organization, which engages in fire fighting operations on Federal property, may be reimbursed for their direct expenses and direct losses.	http://www.cfda.gov/public/viewprog.asp?progid=915

TOPIC/CODE	***DESCRIPTION***	***INTERNET ADDRESS***
83.011 Superfund Amendments Reauthorization Act (SARA), Title III Training Program	Hazardous Materials Training.	http://www.cfda.gov/public/viewprog.asp?progid=918
83.012 Hazardous Materials Assistance Program	Training for emergency planning, preparedness, mitigation, and response capabilities.	http://www.cfda.gov/public/viewprog.asp?progid=1468
83.100 Flood Insurance	To enable persons to purchase insurance against physical damage to or loss of buildings and/or contents caused by floods, mudslide (i.e., mudflow), or flood-related erosion.	http://www.cfda.gov/public/viewprog.asp?progid=919
83.105 Community Assistance Program (CAP)	Prevent and resolve floodplain management issues in participating communities.	http://www.cfda.gov/public/viewprog.asp?progid=920
83.523 Emergency Food and Shelter National Board Program	To supplement and expand ongoing efforts to provide shelter, food, and supportive services for needy families and individuals. To strengthen efforts to create more effective and innovative local programs by providing funding for them.	http://www.cfda.gov/public/viewprog.asp?progid=922
83.527 FEMA, Emergency Management Institute (EMI), Training Assistance	To defray travel and per diem expenses of State and local emergency management personnel who attend training courses conducted by EMI.	http://www.cfda.gov/public/viewprog.asp?progid=924
83.536 Flood Mitigation Assistance	Planning Grants used to assist States and communities in developing Flood Mitigation Plans.	http://www.cfda.gov/public/viewprog.asp?progid=929
83.537 Community Disaster Loans	To provide loans, subject to Congressional loan authority, to any local government that has suffered substantial loss of tax and other revenue in an area in which the President designates a major disaster exists.	http://www.cfda.gov/public/viewprog.asp?progid=930

TOPIC/CODE	***DESCRIPTION***	***INTERNET ADDRESS***
83.538 Cora Brown Fund	To use funds made possible by a bequest of funds from the late Cora C. Brown of Kansas City, Missouri, who left a portion of her estate to the United States for the purpose of helping victims of natural disasters not caused by or attributed to war.	http://www.cfda.gov/public/viewprog.asp?progid=931
83.539 Crisis Counseling	To provide immediate crisis counseling services, when required, to victims of a major Federally-declared disaster for the purpose of relieving mental health problems caused or aggravated by a major disaster or its aftermath. Assistance provided is short-term in nature and provided at no cost to the disaster victims.	http://www.cfda.gov/public/viewprog.asp?progid=932
83.540 Disaster Legal Services	To provide legal assistance to individuals affected by a major Federal disaster.	http://www.cfda.gov/public/viewprog.asp?progid=933
83.541 Disaster Unemployment Assistance (DUA)	To provide DUA weekly benefits to help individuals who are left jobless in the wake of a Federally-declared major disaster, and are not eligible for regular Unemployment Insurance benefits.	http://www.cfda.gov/public/viewprog.asp?progid=934
83.542 Fire Suppression Assistance	To provide grants to States for the suppression of any fire on public (nonfederal) or privately owned forest or grassland that threatens to become a major disaster.	http://www.cfda.gov/public/viewprog.asp?progid=935
83.543 Individual and Family Grants	To provide funds for the necessary expenses and serious needs of disaster victims which cannot be met through other forms of disaster assistance or through other means such as insurance.	http://www.cfda.gov/public/viewprog.asp?progid=936
83.544 Public Assistance Grants	Removal of debris from public lands; emergency protective measures; restoration of eligible facilities.	http://www.cfda.gov/public/viewprog.asp?progid=937

TOPIC/CODE	***DESCRIPTION***	***INTERNET ADDRESS***
83.545 Disaster Housing Program	Home Repair Assistance.	http://www.cfda.gov/public/viewprog.asp?progid=938
83.547 First Responder Counter-Terrorism Training Assistance	To enhance the capabilities of first responders in managing the consequences of terrorist acts.	http://www.cfda.gov/public/viewprog.asp?progid=939
83.548 Hazard Mitigation Grant Program (HMGP)	To provide States and local governments financial assistance to implement measures that will permanently reduce or eliminate future damages and losses from natural hazards through safer building practices and improving existing structures and supporting infrastructure.	http://www.cfda.gov/public/viewprog.asp?progid=940
83.550 National Dam Safety Program	Ensure dam safety, to protect human life and property, and to improve State dam safety programs.	http://www.cfda.gov/public/viewprog.asp?progid=942
83.551 Project Impact--Building Disaster Resistant Communities	Reduce the existing risk of natural hazard losses within the geographic location of the designated communities.	http://www.cfda.gov/public/viewprog.asp?progid=943
83.552 Emergency Management Performance Grants	Improve emergency planning, preparedness, mitigation, response, and recovery capabilities.	http://www.cfda.gov/public/viewprog.asp?progid=944
66.701 Toxic Substances Compliance Monitoring Cooperative Agreements	To (a) assist States in developing and enhancing comprehensive toxic substance enforcement programs including PCB, asbestos, lead-based paint, and sector specific multi-media enforcement efforts, (b) sponsor cooperative surveillance, monitoring, compliance assistance, and analytical procedures; and (c) encourage regulatory activities within the States.	http://www.cfda.gov/public/viewprog.asp?progid=1381
66.714 Pesticide Environmental Stewardship-Regional Grants	To provide risk reduction from the use of pesticides in agricultural and non-agricultural settings in the United States.	http://www.cfda.gov/public/viewprog.asp?progid=848

TOPIC/CODE	***DESCRIPTION***	***INTERNET ADDRESS***
66.801 Hazardous Waste Management State Program Support	To assist state governments in the development and implementation of an authorized hazardous waste management program for the purpose of controlling the generation, transportation, treatment, storage and disposal of hazardous wastes.	http://www.cfda.gov/public/viewprog.asp?progid=849
66.805 Leaking Underground Storage Tank Trust Fund Program	To support State and Tribal corrective action and enforcement programs that address releases from underground storage tanks containing petroleum.	http://www.cfda.gov/public/viewprog.asp?progid=852
66.809 Superfund State Core Program Cooperative Agreements	To effectively implement the statutory requirements of Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Section 121(f) for State involvement.	http://www.cfda.gov/public/viewprog.asp?progid=856
66.810 Chemical Emergency Preparedness and Prevention (CEPP) Technical Assistance Grants Program	To provide for chemical accident prevention activities that relate to the Risk Management Program under the Clean Air Act.	http://www.cfda.gov/public/viewprog.asp?progid=857
59.002 Economic Injury Disaster Loans	To assist business concerns suffering economic injury as a result of Presidential, Small Business Administration, and/or Secretary of Agriculture declared disasters.	http://www.cfda.gov/public/viewprog.asp?progid=756
59.008 Physical Disaster Loans	To provide loans to the victims of declared physical- type disasters for uninsured losses.	http://www.cfda.gov/public/viewprog.asp?progid=760
47.041 Engineering Grants	Earthquake Hazard Mitigation; Natural and Technological Hazard Mitigation; (among many others).	http://www.cfda.gov/public/viewprog.asp?progid=745
39.003 Donation of Federal Surplus Personal Property	To transfer surplus personal property to the States for donation to State and local public agencies.	http://www.cfda.gov/public/viewprog.asp?progid=706

TOPIC/CODE	***DESCRIPTION***	***INTERNET ADDRESS***
21.052 Alcohol, Tobacco and Firearms (ATF) - Training Assistance	To help the participant identify the laws relating to alcohol, tobacco, firearms and explosives, and provide training in specific investigative skills and techniques, and to help State, county, and local law enforcement officers improve their law enforcement capabilities in the organized crime area, including arson, undercover, firearms and explosives investigations.	http://www.cfda.gov/public/viewprog.asp?progid=676
20.006 State Access to the Oil Spill Liability Trust Fund	To encourage greater State participation in response to actual or threatened discharges of oil.	http://www.cfda.gov/public/viewprog.asp?progid=620
20.303 Grants-in-Aid for Railroad Safety-State Participation	To promote safety in all areas of railroad operations; reduce railroad related accidents and casualties; and to reduce damage to property caused by accidents involving any carrier of hazardous materials by providing State participation in the enforcement and promotion of safety practices.	http://www.cfda.gov/public/viewprog.asp?progid=633
20.700 Pipeline Safety	To develop and maintain State natural gas, liquefied natural gas, and hazardous liquid pipeline safety programs.	http://www.cfda.gov/public/viewprog.asp?progid=649
20.703 Interagency Hazardous Materials Public Sector Training and Planning	To improve the capability of communities to plan for and respond to risks posed by incidents involving hazardous materials.	http://www.cfda.gov/public/viewprog.asp?progid=651
16.006 County and Municipal Agency Domestic Preparedness Equipment	The funds may be used to procure equipment to meet the basic defensive capabilities needs of first responders.	http://www.cfda.gov/public/viewprog.asp?progid=485
16.007 State Domestic Preparedness Equipment Support Program	Procure equipment subsequent to the findings that are developed in the statewide threat and needs assessment.	http://www.cfda.gov/public/viewprog.asp?progid=486

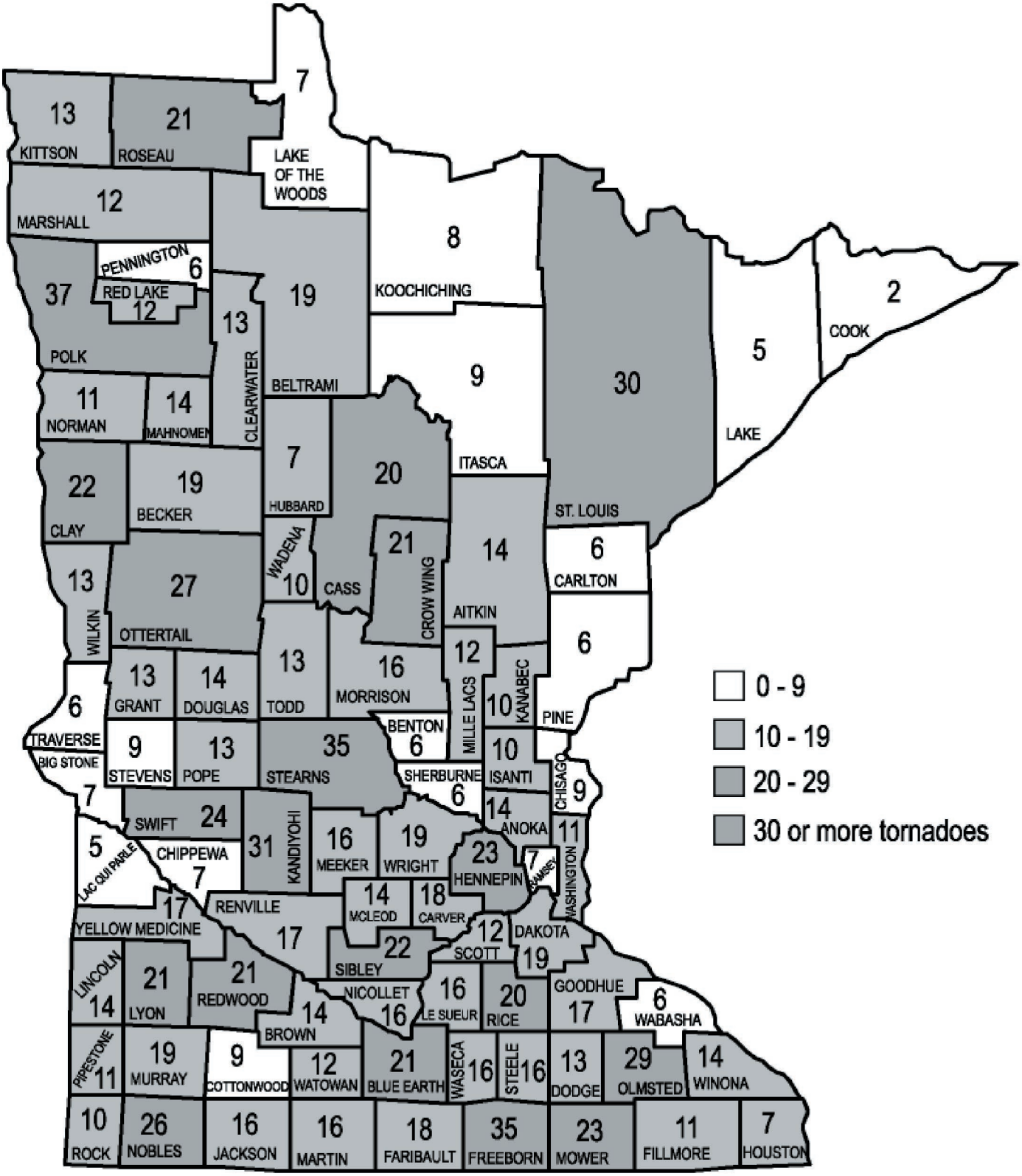
TOPIC/CODE	***DESCRIPTION***	***INTERNET ADDRESS***
16.309 Law Enforcement Assistance-National Instant Criminal Background Check System	To provide a system so that any Federal Firearm Licensee (FFL) could gain information, by telephone or by other electronic means, on whether receipt of a firearm by a prospective buyer would violate Federal or State laws through the proper completion of ATF Form 4473.	http://www.cfda.gov/public/viewprog.asp?progid=1439
16.565 National Institute of Justice Domestic and Terrorism Technology Development Program	To support the development of counter terrorism technologies, assist in the development of standards for those technologies, and work with state and local jurisdictions to identify particular areas of vulnerability to terrorist acts and be better prepared to respond if such acts occur.	http://www.cfda.gov/public/viewprog.asp?progid=523
16.579 Byrne Formula Grant Program	To reduce and prevent illegal drug activity, crime, and violence and to improve the functioning of the criminal justice system.	http://www.cfda.gov/public/viewprog.asp?progid=530
16.580 Edward Byrne Memorial State and Local Discretionary Grants	Programs for FY 2000 HSEMonstrate comprehensive, and integrated multi-agency approaches to violent crime control.	http://www.cfda.gov/public/viewprog.asp?progid=531
16.732 National Evaluation of the Safe Schools/Healthy Students Initiative	To conduct an evaluation of the Safe Schools.	http://www.cfda.gov/public/viewprog.asp?progid=568
15.031 Indian Community Fire Protection	To provide funds to perform fire protection services for Indian Tribal Governments that do not receive fire protection support from State or local government.	http://www.cfda.gov/public/viewprog.asp?progid=393
15.064 Structural Fire Protection-Bureau of Indian Affairs (BIA) Facilities	To provide for the installation of fire protection and prevention equipment in schools, dormitories, detention centers and other BIA facilities.	http://www.cfda.gov/public/viewprog.asp?progid=424
15.065 Safety of Dams on Indian Lands	To improve the structural integ-rity of dams on Indian lands.	http://www.cfda.gov/public/viewprog.asp?progid=425

TOPIC/CODE	***DESCRIPTION***	***INTERNET ADDRESS***
15.807 Earthquake Hazards Reduction Program	Specific objectives are identified in the annual program announcement.	http://www.cfda.gov/public/viewprog.asp?progid=459
14.119 Mortgage Insurance-Homes for Disaster Victims	To help victims of a major disaster undertake homeownership on a sound basis.	http://www.cfda.gov/public/viewprog.asp?progid=285
14.120 Mortgage Insurance-Homes for Low and Moderate Income Families	To make homeownership more readily available to families displaced by a natural disaster, urban renewal, or other government actions and to increase homeownership opportunities for low income and moderate income families.	http://www.cfda.gov/public/viewprog.asp?progid=286
14.228 Community Development Block Grants/State's Program	Grant funds include acquisition of real property, relocation and HSEMolition, rehabilitation for low income areas.	http://www.cfda.gov/public/viewprog.asp?progid=334
12.101 Beach Erosion Control Projects	To control beach and shore erosion to public shores through projects not specifically authorized by Congress.	http://www.cfda.gov/public/viewprog.asp?progid=241
12.102 Emergency Rehabilitation of Flood Control Works, Coastal Protection Works	To assist in the repair and restoration of flood control works damaged by flood, or federally authorized hurricane protection.	http://www.cfda.gov/public/viewprog.asp?progid=242
12.103 Emergency Operations Flood Response and Post Flood Response	To provide emergency flood response and post flood response assistance as required to supplement State and local efforts.	http://www.cfda.gov/public/viewprog.asp?progid=243
12.104 Flood Plain Management Services	To promote recognition of flood hazards in land and water use planning.	http://www.cfda.gov/public/viewprog.asp?progid=244
12.105 Protection of Essential Highways, Highway Bridge Approaches	To provide bank protection of highways, highway bridges, essential public works, churches, hospitals, schools.	http://www.cfda.gov/public/viewprog.asp?progid=245
12.106 Flood Control Projects	To reduce flood damages through projects not specifically authorized by Congress.	http://www.cfda.gov/public/viewprog.asp?progid=246

TOPIC/CODE	***DESCRIPTION***	***INTERNET ADDRESS***
12.108 Snagging and Clearing for Flood Control	To reduce flood damage.	http://www.cfda.gov/public/viewprog.asp?progid=248
12.110 Planning Assistance to States	To cooperate with any state in the preparation of comprehensive plans for the utilization and conservation of water.	http://www.cfda.gov/public/viewprog.asp?progid=250
12.111 Emergency Advance Measures for Flood Prevention	To perform activities prior to flooding that would assist in protecting against loss of life and damages to property due to flood.	http://www.cfda.gov/public/viewprog.asp?progid=251
10.054 Emergency Conservation Program	Enable farmers to perform emergency measures to control wind erosion, to rehabilitate farmlands damaged natural disasters.	http://www.cfda.gov/public/viewprog.asp?progid=16
10.069 Conservation Reserve Program	To protect the Nation's long-term capability to produce food and fiber; to reduce soil erosion and sedimentation, improve water quality, and create a better habitat for wildlife.	http://www.cfda.gov/public/viewprog.asp?progid=20
10.404 Emergency Loans	To assist established (owner or tenant) family farmers, ranchers and aquaculture operators with loans to cover losses resulting from major and/or natural disasters.	http://www.cfda.gov/public/viewprog.asp?progid=56
10.417 Very Low-Income Housing Repair Loans and Grants	Grant funds may only be used by senior citizens to make such dwellings safe and to remove health and safety hazards.	http://www.cfda.gov/public/viewprog.asp?progid=63
10.444 Direct Housing-Natural Disaster Loans and Grants	To assist qualified recipients to meet emergency assistance needs resulting from natural disaster. Funds are only available to the extent that funds are not provided by the FEMA. For the purpose of administering these funds, natural disaster will only include those counties identified by a Presidential declaration.	http://www.cfda.gov/public/viewprog.asp?progid=74

TOPIC/CODE	***DESCRIPTION***	***INTERNET ADDRESS***
10.445 Direct Housing-Natural Disaster	To assist qualified lower income rural families to meet emergency assistance needs resulting from natural disaster to buy, build, rehabilitate, or improve dwellings in rural areas.	http://www.cfda.gov/public/viewprog.asp?progid=75
10.451 Noninsured Crop Disaster Assistance	To provide eligible producers of eligible crops with protection comparable to the catastrophic risk protection plan of crop insurance.	http://www.cfda.gov/public/viewprog.asp?progid=77
10.452 Disaster Reserve Assistance	To provide emergency assistance to eligible livestock owners, a livestock emergency has been determined to exist.	http://www.cfda.gov/public/viewprog.asp?progid=78
10.763 Emergency Community Water Assistance Grants	Through the Emergency Community Water Assistance Grant Program, the Rural Utilities Service (RUS) is authorized to help rural residents who have experienced a significant decline in quantity or quality of water to obtain adequate quantities of water that meet the standards of the Safe Drinking Water Act.	http://www.cfda.gov/public/viewprog.asp?progid=117

Minnesota Tornadoes by County 1950-2002



Source: National Climatic Data Center